



REPORT
OF
THE GOVERNORS
OF THE
UNIVERSITY OF ALBERTA
1958-59

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To the Lieutenant-Governor in Council

Sir:

On behalf of the Governors of the University of Alberta, and in accordance with Section 28 of an Act respecting the University of Alberta, the undersigned have the honour to submit through the Minister of Education the report of the University of Alberta, setting forth the revenue and expenditure for the year ending March 31, 1959, and investments as they stood at the end of the fiscal year. Appended to this report is the report of the President of the University, in which the academic work of the University for the Year July 1, 1958 to June 30, 1959, is dealt with in detail.

C. M. MACLEOD, Chairman

W. H. JOHNS, President

November 30, 1959

Financial Statements

Edmonton, July 17, 1959

I have audited the books and records of the University of Alberta for the year ended March 31, 1959. The undernoted statements are submitted herewith:

Statement	Particulars
A	Balance Sheet
B	Statement of Operating Reserve
C	Statements of Revenue and Expenditure

Operating Results

Operations for the year ended March 31, 1959 resulted in a surplus of \$368,968.06 as compared with a deficit of \$427,197.67 for the previous fiscal period. Details of operations are shown in Statement C and accompanying schedules.

The surplus for the year has been carried to operating reserve. Transactions within the reserve are set forth in Statement B.

Maintenance and upkeep of buildings used by the Faculty of Education in Edmonton and the branch of the University in Calgary have been provided by the Province direct.

Financial Position

Buildings, plant, furnishings and equipment are stated on the Balance Sheet at original cost. No provision has been made for depreciation, but an independent appraisal, completed during the year ended March 31, 1950, indicates that values have been maintained through repairs and renewals, which have been financed from revenue and reserve accounts.

Investments, general and trust, were verified by actual examination, and agreed with the records of the University.

Inventories of merchandise for resale and supplies on hand are certified as to quantities and prices by officials of the University.

Capital and capital surplus transactions during the year are summarized hereunder:

Capital provided by the Government of the Province of Alberta:

Balance as at April 1, 1958	\$16,979,595.76
Add:	
Advances during the year:	
Physical education building	919,420.76
Physical science building	895,279.03
Medical science building	324,581.01
Agriculture and biological science bldg.	312,593.41
Banff school administration bldg.	200,000.00
Prov. lab. of public health	145,445.75
Arts building conversion	87,187.16
Paving and landscaping	61,778.92
Machine shop	55,315.69
North laboratory conversion	24,269.46
Electric light and telephone	21,288.00
Improvements, building and grounds	34,693.46
Equipment	512,558.19
	<u>\$20,574,006.60</u>

Capital surplus:

Balance as at April 1, 1958	\$ 2,740,809.69
Add:	
Acquired from trusts and donated funds: Buildings	282,575.82
Equipment	170,762.82
Provided from reserve funds:	
Buildings	50,000.00
Income contributions:	
Buildings	13,088.84
Equipment	8,503.24
Library	64,004.73
	<u>\$ 3,329,745.14</u>
Deduct:	
Demolition and disposals	180,803.29
	<u>3,148,941.85</u>
	<u>\$23,722,948.45</u>

Subject to the foregoing remarks, I certify that, in my opinion, the attached Balance Sheet is properly drawn up so as to show the true financial position of the University of Alberta as at March 31, 1959, according to information and explanations given to me and as shown by the books of the University, and the accompanying Statement of Revenue and Expenditure correctly sets forth the result of operations for the year ended at that date.

C. K. HUCKVALE, F.C.A.

Provincial Auditor.

UNIVERSITY OF ALBERTA
BALANCE SHEET AS AT MARCH 31, 1959

ASSETS

Buildings and equipment in service:			
Land, buildings and plant	\$19,560,177.80		
Furnishings and equipment	4,077,410.09		
			\$23,637,587.89
Loan receivable:			
Students' Union re Students' Union building, see contra			199,306.81
Investments:			
Provincial direct and guaranteed debentures at book value (market value \$186,000.00)			198,480.00
Current:			
Cash on hand and in bank	\$	86,901.61	
Accounts receivable:			
Sundry debtors	\$	143,283.12	
Less: Allowance for doubtful accounts		2,500.00	
	\$	140,783.12	
Government of the Prov. of Alta.		735,131.15	
		875,914.27	
Accrued interest		4,604.16	
Merchandise held for resale		140,297.95	
			1,107,717.99
Prepaid expenses:			
Supplies on hand	\$	99,748.92	
Unexpired insurance		34,426.54	
Legal retainer fee		375.00	
Unemployment insurance stamps		635.58	
			135,186.04
Other assets:			
Livestock	\$	30,164.00	
Deposit, Workmen's Compensation Board		8,564.00	
			38,728.00
Trust:			
Investments, book value:			
Government of Canada bonds, direct and guaranteed	\$	1,345,500.00	
Provincial debentures, direct and guaranteed		1,239,340.00	
Municipal debentures		6,000.00	
Corporation debentures		31,270.00	
Corporation shares		40,987.36	
	\$	2,663,097.36	
Cash on hand and in bank		212,086.09	
Loans receivable		46,122.84	
Real estate, shares and sundry, nominal value		8.00	
Due from general account		292,945.02	
			\$ 3,214,259.31
			<u>\$28,531,266.04</u>

LIABILITIES

Capital and surplus:		
Capital provided by the Government of the Province of Alberta	\$20,574,006.60	
Capital surplus	3,148,941.85	
		\$23,722,948.45
Loan payable:		
Government of the Province of Alberta re Students' Union building, see contra		199,306.81
Agreement for purchase of leasehold		990.99
Current:		
Treasury branch overdraft	\$ 15,640.09	
Accounts payable	370,847.95	
Due to trust account	292,945.02	
		679,433.06
Deferred income:		
Fees	\$ 14,867.09	
Other	296.45	
		15,163.54
Reserves:		
Federal aid funds unexpended	\$ 193,565.37	
University Athletic Board fees unexpended	29,615.86	
Land exchange	22,726.42	
Workmen's Compensation Board	8,564.00	
Library fees unexpended	7,952.31	
Rink repairs	1,148.16	
Provincial Laboratory of Public Health, operating	59,342.86	
Operating, general, Statement B	376,248.90	
		699,163.88
Trust:		
General endowment:		
Rockefeller Foundation	\$ 500,000.00	
Scholarships:		
Escheated estates	\$ 737,887.97	
General	467,021.99	
		1,204,909.86
Research	460,057.64	
Students' grants and loans	95,974.02	
General educational purposes	296,609.05	
Pensions	56,567.63	
Sundry:		
Administered by the University	\$ 220,876.81	
Held on behalf of others	379,264.30	
		600,141.11
		\$ 3,214,259.31
		<u>\$28,531,266.04</u>

STATEMENT B

UNIVERSITY OF ALBERTA
STATEMENT OF OPERATING RESERVE
FOR THE YEAR ENDED MARCH 31, 1959

Surplus for the year ended March 31, 1959, Statement C		\$ 368,968.06
Add:		
Transfer from the Provincial Laboratory of Public Health operating reserve:		
Excess of expenditure over revenue	\$ 8,541.77	
Sale of miscellaneous surplus equipment	2,635.41	
Sale of temporary huts	1,000.00	
		<u>12,177.18</u>
		\$ 381,145.24
Deduct:		
Transfer to Conference of Learned Societies trust account		4,896.34
Balance as at March 31, 1959		<u>\$ 376,248.90</u>

UNIVERSITY OF ALBERTA
STATEMENT OF REVENUE AND EXPENDITURE
FOR THE YEAR ENDED MARCH 31, 1959

REVENUE

Grants:

Province of Alberta:

General	\$ 3,100,000.00
Clinical research, University of Alberta	
Alberta Hospital, see contra	50,000.00
Debt charges, see contra	553,852.26

\$ 3,703,852.26

Government of Canada:

Federal aid	1,744,573.31
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\$ 5,448,425.57

Fees:

Tuition	\$ 1,452,648.81
Examination and special, net	35,206.73

1,487,855.54

Interest on Rockefeller foundation endowment	\$ 16,875.00
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Deduct: Transferred to medical research trust	6,875.00
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10,000.00

Grants in aid	5,000.00
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Library fees, see contra	52,661.13
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University Athletic Board fees, see contra	25,015.54
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Operating departments net revenue as per Schedule No. 2	21,606.63
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\$ 7,050,564.41

EXPENDITURE

Instructional salaries and direct expenses,

net, as per Schedule No. 1	\$ 4,446,938.35
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Maintenance of buildings	669,542.71
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Debt charges, see contra	553,852.26
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Library:

Salaries and expenses, Edmonton	\$ 177,774.68
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Salaries and expenses, Calgary	13,780.37
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Provision for library accessions, see contra	52,661.13
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244,216.18

Administrative salaries and expenses, general	278,529.50
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Maintenance of grounds	66,033.61
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Grant to University of Alberta Hospital	
re clinical research, see contra	50,000.00

Other expenses:

Student advisory services	\$ 39,831.76
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Provision for University Athletic Board expenses,	
see contra	25,015.54

Calendars, scientific and other publications	22,481.00
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Travelling expenses, instructional staff	18,000.00
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Provost's office	14,125.58
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Alumni office	11,641.45
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Pension arrears	10,460.55
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Greenhouse salaries and expenses, general	10,365.27
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Electronics maintenance	10,363.84
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First year committee	249.96
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162,534.95

Public service departments not expenditure,

as per Schedule No. 3	209,534.49
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Equipment purchased from income	414.30
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\$ 6,681,596.35

Surplus for the year ended March 31, 1959,

carried to operating reserve, Statement B	\$ 368,968.06
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*To the Governors of the
University of Alberta*

Gentlemen:

I have the honour to submit the following report on the work of the University of Alberta for the year ending June 30, 1959.

W. H. JOHNS,
President.

President's Report to Convocation

November 1, 1958

Eminent Chancellor, we are all impressed with the historic significance of this occasion. This is the first time a Convocation of the University of Alberta has been held in the City of Calgary. It may, in the view of some, be fifty years too late. However, within the historical framework, there are good reasons why the event should occur in the year 1958. In the first place, the University of Alberta, which was established by Provincial Statute to serve the needs of the Province, this year celebrates its 50th Anniversary. The decision to hold the regular Fall Convocation in Calgary is part of the general design of the Jubilee celebrations. In the second place we will, following this Convocation, take part in the ceremony of turning a sod on the new Campus of the University of Alberta in Calgary. Consequently, the occasion marks both the end of an era and the beginning of a new one. It is an exciting day. Albertans do not live in the past; their eyes are constantly on the future; and today we see the future taking shape.

The Calgary Branch of the University of Alberta was established in 1945, when the University assumed the responsibility for teacher training and a part of the facilities of the Calgary Normal School became available for University instruction. Modest growth in the courses offered and in the number of students has occurred within the limited facilities, and it can be said that the students who have attended the Calgary Branch have not in any way suffered in their educational progress in comparison with the students attending at the larger part of the University in Edmonton. For this they, and the University, owe a debt of gratitude to the staff of the Calgary Branch who have so faithfully carried out their duties in the absence of some of the amenities and aids available to their colleagues.

The University, and particularly those who have laboured here, are grateful to the City and citizens of Calgary for making available the spacious and attractive site on which the University in Calgary can begin the new stage of its growth to full maturity. The plans for the development have been exhibited in Calgary and the first buildings will be occupied in the fall of 1960. The new facilities will be required to meet the rapidly increasing number of students and will provide conditions for students and staff comparable to the best available in other Canadian Universities. Such facilities are not obtained except at considerable cost, and we are grateful to the Government and people of the Province for the substantial commitment they have made to meet the growing needs for the tools to carry out the expanding program of University education in Alberta.

In my brief report to Convocation, I shall confine myself to an analysis of student registrations. My first figures have reference to *under-graduate* students who are in full-time attendance at the winter session. The number of such students in Edmonton and Calgary is now 5,141; 4,600 in Edmonton, and 541 in Calgary. To this number we may add 195 full-time graduate students in attendance in Edmonton. The total of 5,336 full-time students, under-graduate and graduate, in 1958-59, represents an increase of 542, or 11% over 1957-58. The increase in Edmonton is 443 and in Calgary 99.

The total increase is slightly greater than had been expected on the basis of recent trends. Two features of the changes this year call for special comment. The increase in the Faculty of Engineering, although considerable, is not as great as might have been expected. The registration in the first year is no greater than last year. This may be due, in part, to the rather less favourable employment opportunities for engineers in 1958. On the other hand, there is a substantial increase in the registrations in the B.Sc. Programs in the Faculty of Arts and Science. Perhaps this is a consequence of the emphasis which has been given to science in public discussion of Education recently.

The second noteworthy feature of the current growth is changes in enrolments in the Faculty of Education. The increase (160) in numbers of teachers in training is of the order expected. There is a decrease in the number of students registered in the junior elementary program, but this is more than compensated by increases in the first year of the B.Ed. program, and in the number of graduates from the Faculty of Arts and Science, who are proceeding to the B.Ed. degree. There is, therefore, a healthy trend toward participation in those programs of studies which will assist in raising the qualifications of teachers.

To the full-time students we may add those special and partial students who are taking something less than a full intra-mural program of studies. This number, in 1958-59, is 600; 449 in Edmonton, and 151 in Calgary. This brings the aggregate number of students attending the winter session in Edmonton and Calgary to 5,936 of which 692 are in Calgary.

These are not the only students in the Province who are proceeding towards degrees from the University of Alberta. A number of students are registered in credit courses offered in the Evening Division. Total registration in these courses is 881, an increase of 204 over 1957-58. The courses are being offered in eight centres in the Province. Evening program students number 582 in Edmonton (an increase of 20%); 102 in Calgary (an increase of 25%); and 197 in other centres in the Province (an increase of 60%).

The Lethbridge Junior College, which admitted students for the first time in 1957, has this year an enrolment of 54 full-time students studying for examinations at the University of Alberta. This compares with 26 students last year. Approximately 50 teachers are also taking early afternoon classes in the Lethbridge College.

Registration in the 1958 Summer Session in Edmonton reached a new high of 2,409 students.

If we add together the registrations of full-time and partial winter session students, evening credit, Lethbridge College, and Summer Session, we reach a total of 9,330 registrations in courses leading to a degree.

The number I have just given does not include students attending short courses offered by the Department of Extension. There are, at the present time, 2,184 persons registered in extra-mural courses offered by the Extension Department. The courses include evening courses in a variety of subjects in Edmonton, Calgary, Medicine Hat, and Lethbridge; Fine Arts programs outside of Edmonton; courses for special groups (for example, the Engineering Institute of Canada); and two new certificate courses in Social Welfare and Public Administration.

Increasing numbers present problems, but it is without regret or apology that I report that the work of the University is expanding on all fronts to meet the growing demands for educational services.

President's Report to Convocation

May 20, 1959

In this, my first report to Convocation, I must begin by expressing the universal feeling of regret that was felt by the University community when we learned of the decision of Dr. Andrew Stewart to resign as President of the University on January 31 in order to accept the post of chairman of the newly created Board of Broadcast Governors in Ottawa. We are pleased to have him with us today as a candidate for the degree of Doctor of Laws, *honoris causa*, along with three other distinguished citizens of Alberta who have served the University faithfully and well during Dr. Stewart's own period of service here.

Last year we marked our Jubilee in celebrating fifty years of service to our constituency, the Province of Alberta. The growth of the University in this half century may be indicated in part by the fact that we begin our present fiscal year on April 1 with two budgets, one for current operations and the other for our capital building program, each in excess of ten million dollars. Comparisons are, of course, never entirely valid, particularly when they involve sums of money in a period of monetary inflation. It may, however, be of interest to note that our current budget last year was just over eight million dollars with the capital building figure just over four million and in 1956-57 the current was just over five million and the capital under one million. In other words, the current budget has nearly doubled and our capital building budget has increased tenfold in a period of only three years. We are deeply conscious of the generous support this implies on the part of the Government and people of this Province and of Canada as a whole.

Time does not permit a detailed account of the use to which these very large sums of money are put, but I should like to refer especially today to the building program and to graduate teaching and research, touching briefly on other aspects of the corporate life of the University in passing.

Capital construction at the University of Alberta lagged behind need for two decades during the long years of depression and war from the mid 1920's to the mid 1940's. Following World War II a beginning was made in repairing these deficiencies and this part of the program has provided a number of very fine buildings. The present program is designed to meet the great and growing needs of the present and of the future.

Four major projects are now under way on the Edmonton Campus:

- (1) the Physics-Chemistry-Mathematics Building, of which the steel framework is now visible on the north end of the back campus; 60% of this building is scheduled for completion by September, 1960 including the large lecture theatre in front of the Physics Building and the lecture room pavilions at the rear;
- (2) the Physical Education and Recreation Building is taking shape rapidly between 87th and 89th Avenues to provide men's and women's gymnasias, a rink, a swimming pool, and auxiliary practice and lecture rooms and offices;

- (3) the addition to the Medical Building where the steel core is now being erected and work on the general and other contracts is expected to follow shortly to provide additional space for the pre-clinical Departments in Medicine and new facilities for a number of other health sciences;
- (4) steel has been purchased for the addition to the Engineering Building which we hope may be completed by the beginning of the 1960-61 session.

The Calgary campus also claims high priority for two large teaching buildings which we hope will be ready for occupancy by September, 1960. The first of these will accommodate administrative offices, the Faculty of Education, Departments of the Liberal Arts, and the Library. The second will provide for Science, Engineering, and food services. A third building is urgently needed to provide facilities for Physical Education and Recreation and an assembly hall for meetings, examinations, and social functions. This building is now in the preliminary, planning stage. Later, the University of Alberta in Calgary will require a separate Library building, a separate Education building with a demonstration school and student residences.

The Edmonton program also calls for further buildings in the near future—an additional Education Building, a Fine Arts Building, an addition to the Rutherford Library, a Social Sciences Building, a Home Economics Building, a Medical teaching building adjacent to the University Hospital, and a number of smaller service buildings. As in Calgary there is an ever present and always urgent need for residences and food services.

The support for this program provided by the Government of Alberta through the Department of Public Works is a constant source of satisfaction to the Board of Governors and a challenge to the administrative and teaching staff to provide the best facilities for higher education in Canada. When the current program is complete, the University of Alberta will be second to none in this country in the quality of its physical equipment.

No university is built of bricks and mortar. It stands on the quality of its teaching and research; and the alert, enquiring mind that produces the most effective teaching and the most effective research reaches its full flowering only where conditions are favourable. Behind the facades of these buildings are the laboratories, the bewildering variety of electronic and other equipment which serve the scientific observer, the overflowing shelves of the library's book storage, and the offices which provide space for the staff member's personal equipment and the privacy and quiet he needs for his work. All this is enabling us more and more to attract, and, by affording satisfaction, to retain, those persons of whom a university must consist if it is to make its due contribution to the national life.

The vitality, and the growth, of this institution can be shown by such examples as a new degree program in Mechanical Engineering, plans for expansion of the Physiotherapy curriculum to three years with provision for Occupational Therapy, a revision of the programs in the School of Commerce and the Faculty of Law, a new program leading to the degree of Bachelor of Music, new honours courses in Geography, Sociology, and Slavonic and Soviet studies, and a general increase in activity in a score of Departments and Divisions throughout the University.

As a further signal example of this vitality and growth I choose the Faculty of Graduate Studies. On April 1 of this year Dr. A. G. McCalla

relinquished his post as Dean of the Faculty of Agriculture to devote his efforts fully to his work as Dean of the Faculty of Graduate Studies. Dr. C. F. Bentley, who had served for a year and a half as Associate Dean was named Dean of the Faculty of Agriculture as of the same date.

Canadian universities have for many years had an excellent reputation for their undergraduate programs; but for graduate study, especially for work leading to the doctoral degree, it was necessary for our best students to go to the United States, with the consequent loss of many of them to the academic and scientific life of Canada. This situation is now rapidly becoming redressed and the University of Alberta is taking a leading role in this development. Two years ago a total of 18 students were registered for the degree of Doctor of Philosophy. Last year, the number, including provisional candidates, rose to 36. This year it had grown to 69 with an additional 6 students registered for the newly established degree of Doctor of Education. This year, three Departments—Chemistry, Dairy Science, and Educational Psychology—are presenting candidates for the Ph.D. for the first time.

Of special interest in this rapidly developing program is the work in the various aspects of professional Education. Some idea of the graduate work in this field may be gained from the following figures:

The Division of Educational Administration last year had 75 Summer Session candidates for the degree of Master of Education while in the intramural program there were 10 candidates for the Master's degree and 8 for the Doctorate. The intramural program, particularly, is national in scope and attracts candidates from several provinces.

The Division of Secondary Education serves 115 M.Ed. candidates, mostly in the Summer Session, and has two Doctoral candidates currently registered.

The Division of Educational Psychology also has a large number of Master's candidates and during the past year has had 5 candidates proceeding to the Ph.D.

Not only do these programs improve the qualifications of a large number of school teachers, principals, and superintendents; they also, through the fruits of the research carried on, add to our understanding of a great many problems in Canadian education. Co-ordination of these projects is assisted by Provincial and Faculty Committees on Educational Research and many of the results are published in the *Alberta Journal of Educational Research* and in special monographs.

It is not possible here to give complete statistics for other Departments, but a few may be given special mention. The Department of Chemistry had 40 graduate students last year of whom 27 were proceeding on doctoral programs, the Department of Geology had 18 candidates for the Master's degree in Science and 2 for the Ph.D., the Department of Physics had 8 candidates for the M.Sc. and 7 for the Ph.D., and the Department of Civil Engineering had a total of 30 graduate students. Research is also being prosecuted with vigour in a number of other Departments in the Faculties of Agriculture, Arts and Science, Engineering, Medicine, and Pharmacy, and others.

Graduate training in the Faculty of Medicine calls for special mention. Students in this Faculty normally prepare themselves to sit the examinations for certification or fellowship in the Royal College of Physicians and Surgeons of Canada rather than for graduate degrees. This year, however, the 32 young men and women in this group were registered as Special Students in the

Faculty of Graduate Studies in recognition of their status in the University. Support for research in Medicine comes from many sources, notably from the University's own Medical Research Fund, the Defence Research Board, the National Research Council, the National Cancer Institute, the Alberta Heart Foundation, the Department of Health and Welfare, and the Muscular Dystrophy Association. Last year the Faculty received from all sources a total of \$239,820 and members of the Medical staff were able to present 92 scientific papers on original research to various learned societies as well as 180 lectures to medical and nursing groups and lay societies in Western Canada.

With a record such as this in graduate study and research, the University of Alberta can lay claim to have come of age.

In conclusion I must note with deep regret the tragic and untimely death since last May of five of our active colleagues—Dr. Erich Mueller, Professor of German; Dr. E. H. Gowan, Professor of Physics; Dr. Samuel Strong, Assistant Professor of Sociology; Dr. R. B. Miller, Professor of Zoology; and Dr. O. J. Walker, who served the University for many years as Professor of Chemistry and more recently as Director of the School of Graduate Studies. At the time of his death Dr. Walker had completed the first year of his retirement and had been lecturing in Chemical Engineering.

I should like publicly to express the University's gratitude to several other staff members who have served the University well for many years and are now leaving for retirement or other activity: Dr. John W. Scott retires as Dean of the Faculty of Medicine after many years of distinguished service as Professor of Medicine and Dean. He will continue his private practice in Edmonton. We are happy to welcome Dr. Walter C. MacKenzie to the office of Dean of the Faculty on Dr. Scott's retirement in August.

Dr. R. F. Shaner retires as Professor of Anatomy, but will continue to carry on with his research for at least another year with the rank of Professor.

Dr. J. E. Bowstead retires as Professor of Animal Science after many years of service.

Dr. J. D. Newton has anticipated his retirement by one year to return to Indonesia with the Food and Agriculture Organization in his special field of Soil Science.

Dr. H. A. MacGregor completes his term of service as Professor of Elementary Education this year.

Mr. Geoffrey Bradford Taylor, former Registrar, who will be honoured later in this program in a special way, officially retires this summer.

One final loss to the University remains to be announced—the resignation of Dr. R. M. Hardy as Dean of the Faculty of Engineering to devote himself to his private practice. I am happy to say that the blow has been slightly mitigated in this case, since Dr. Hardy has consented to carry on some teaching in Civil Engineering on a part time basis. These men have our deep and sincere gratitude.

Table I—Academic Staff Numbers (September 1st, 1958)

Administrative Officers

President	1	
Vice-President	1	
Assistant to the President	1	
Deans of Faculties	9	
Directors of Schools	5	
Director of the Calgary Branch	1	
Assistant Director of the Calgary Branch	1	
Director of the Summer Session	1	
Provost	1	
Assistant Provost, Calgary Branch	1	
Director of Student Advisory Services	1	
Assistants to the Director of Student Advisory Services	2	
Dean of Women	1	
Librarian	1	
Superintendent of the University Hospital	1	
Registrar	1	
Associate Registrar	1	
Assistant to the Registrar	1	
Alumni Secretary	1	
Bursar	1	
Accountant	1	
Assistant Accountant	1	
Purchasing Agent	1	
Personnel Officer	1	
Wardens of Residence Halls	3	
		40

Full-time Teaching Staff

Professors	76	
Associate Professors	107	
Assistant Professors	128	
Lecturers	24	
Instructors	5	
		340

On Leave of Absence

Professors	3	
Associate Professors	4	
Assistant Professors	3	
Lecturers	nil	
		10

Part-time Teaching Staff

Professors	7	
Associate Professors	7	
Clinical Professors	20	
Assistant Professors	13	
Associate Clinical Professors	1	
Assistant Clinical Professors	14	
Lecturers	72	
Instructors	86	
Demonstrators in the Faculty of Education	195	
Demonstrators and student assistants	200	
		615

<i>Department of Extension</i>		
Director	1	
Assistants	3	
Agriculture Secretary	1	
Librarian	2	
	—	7
<i>Library</i>		
Librarian	1	
Assistant Librarian	—	
Assistants	15	
	—	16
<i>Industrial Laboratories</i>		
Director and Provincial Analyst	1	
Assistants	2	
	—	3
<i>Provincial Laboratory of Public Health</i>		
Provincial Bacteriologist and Director, Edmonton	1	
Director, Calgary	1	
Provincial Pathologist	1	
Assistants	4	
	—	7
<i>Other Staff</i>		
Dietitians	3	
Radio Secretary	1	
	—	4
Total		1042
Less Duplicates		31
		—
Total Academic Staff		1011
		—

Table II—Academic Staff Appointments and Promotions

Faculty of Agriculture

Lawrence F. L. Clegg, B.S.A., Ph.D., D.Sc., D.I.C., M.I.Biol., Professor of Dairy Science.

William G. Evans, M.S., Ph.D., Assistant Professor of Entomology.

John M. de Man, Chem. Eng., Ph.D., Assistant Professor of Dairy Science.

George Eugene Ball, A.B., Ph.D., M.Sc., from Assistant to Associate Professor of Entomology.

Charles Fred Bentley, M.Sc., Ph.D., Dean of the Faculty of Agriculture.

Faculty of Arts and Science

Samuel M. Strong, B.A., Ph.D., Assistant Professor of Sociology.

John P. Cutts, M.A., B.A., Ph.D., from Lecturer to Assistant Professor of English.

Rowland Douglas McMaster, M.A., from Lecturer to Assistant Professor of English.

Roger Georges Motut, B.A., B.Ed., M.A., Assistant Professor of French.

Cleveland Pendleton Hickman, A.B., M.Sc., Assistant Professor of Zoology.

Gordon Kenneth Goundrey, B.A., M.A., Assistant Professor of Economics.

Frederick Terentiuk, B.Sc., M.A., Ph.D., Assistant Professor of Physics, Calgary.

Robert H. McNeal, A.B., M.A., Certificate of the Russian Institute, Ph.D., Assistant Professor of History.

Edward J. Rose, A.M., from Lecturer to Assistant Professor of English.

Hubert Chanal, L-es-L., Lecturer in Russian.

Werner Israel, M.Sc., Assistant Professor of Mathematics.

John McNamee, B.E., B.Sc., Ph.D., Associate Professor of Mathematics.

Peter de Beauvoir Brock, B.A., M.A., D.Phil., Ph.D., Assistant Professor of History.

Keena Vozoff, B.S., M.S., Ph.D., Assistant Professor of Physics.

Charles Nelson Uhl, B.A., M.S., Ph.D., Assistant Professor of Psychology.

Frank D. Manchester, M.Sc., Ph.D., Assistant Professor of Physics.

John Thomas Sample, B.S., M.A., Ph.D., Assistant Professor of Physics.

Frank Ludwig Weichman, B.S., Ph.D., Assistant Professor of Physics.

David A. Boag, M.Sc., Lecturer in Zoology.

Victor Lewin, B.A., Ph.D., Assistant Professor of Zoology.

Genevieve Colleville, Lecturer in French, Calgary.

Bohdan Plaskacz, Lic. Phil. Litt., Ph.D., Assistant Professor of German.

John George Packer, B.Sc., from Lecturer to Assistant Professor of Botany.

William Alfred Ayer, B.Sc., Ph.D., Assistant Professor of Chemistry.

David Anthony Armstrong, B.Sc., Ph.D., Assistant Professor of Chemistry.

Frank Cuthbert Adam, M.Sc., Ph.D., Assistant Professor of Chemistry, Calgary.

David Darwish, B.Sc., Ph.D., Assistant Professor of Chemistry.

Gordon R. Freeman, M.A., Ph.D., D.Phil., Assistant Professor of Chemistry.

Paul Kebarle, Dip. Ing. Chem., Ph.D., Assistant Professor of Chemistry.

Rudolph O. A. Robinson, B.A., Ph.D., Associate Professor of Mathematics.

William J. Bruce, M.Ed., Ph.D., from Assistant to Associate Professor of Mathematics.

Anthony S. B. Holland, B.Sc., Lecturer in Mathematics, Calgary.

Tadepalli V. Narayana, M.A., Ph.D., Associate Professor of Mathematics.

William F. Dawson, B.A., M.A., D.Phil., from Lecturer to Assistant Professor of Political Economy.

Halfdan Baadsgaard, B.S., Ph.D., Assistant Professor of Geology.

Elias Wolf Mandel, M.A., Ph.D., from Assistant to Associate Professor of English.

Frank Donald Blackley, M.A., Ph.D., from Associate Professor to Professor of History.

Henry Kreisel, M.A., Ph.D., from Associate Professor to Professor of English.

Ronald Allan Burwash, B.Ed., M.Sc., Ph.D., from Assistant to Associate Professor of Geology.

Ernest Reinhold, B.Sc., M.A., Ph.D., from Assistant to Associate Professor of German.

Robert Common, B.A., Ph.D., from Assistant to Associate Professor of Geography.

Cyril Eugene Challice, B.Sc., Ph.D., A.R.C.S., D.I.C., F.Inst.P., from Assistant to Associate Professor of Physics, Calgary.

George Charles Cree, M.A., Ph.D., from Assistant to Associate Professor of Mathematics.

John Ralph Nursall, M.A., Ph.D., from Assistant to Associate Professor of Zoology.

Eoin Laird Whitney, B.Sc., A.M., Ph.D., from Assistant to Associate Professor of Mathematics.

Charles Herald Moore, B.A., Docteur de l'Universite de Paris, from Assistant to Associate Professor of French.

Terence Michael Penelhum, M.A., B.Phil., from Assistant to Associate Professor of Philosophy.

Earl Frederick Guy, M.A., Ph.D., from Assistant to Associate Professor of English, Calgary.

Wallace Dean Farnham, B.A., M.A., Ph.D., from Assistant to Associate Professor of History.

William John Eccles, M.A., Ph.D., from Assistant to Associate Professor of History.

Frank F. Bueckert, B.Ed., A.M., from Lecturer to Assistant Professor of Drama.

Alban Dewes Winspear, B.A., M.A., Associate Professor of Classics, Calgary.

School of Commerce

Herbert M. Axford, B.Com., M.Com., Ph.D., Associate Professor of Business Administration.

William A. Preshing, B.Ed., B.A., M.B.A., from Lecturer to Assistant Professor of Business Administration.

Faculty of Dentistry

Rowland Dalton Haryett, D.D.S., M.Sc., from Assistant to Associate Professor of Orthodontics.

Stanley Gordon Geldart, D.D.S., from Sessional Lecturer to Assistant Professor of Operative Dentistry.

Neil Basaraba, D.D.S., Lecturer in Pedodontics.

Jan Diepenheim, Diploma, D.D.S., Lecturer in Operative Dentistry.

Douglas Harvey MacDougall, D.D.S., Lecturer in Operative Dentistry.

Ronald Perry Mullen, B.A., D.D.S., M.S.D., Lecturer in Orthodontics.

William Irwin Maurice Steen, D.D.S., Lecturer in Operative Dentistry.

Robert Lewis Tegart, D.D.S., Lecturer in Operative Dentistry.

Albert Rudolph Urschel, D.D.S., Lecturer in Prosthetic Dentistry.

Kenneth Alan McMurchy, B.A., D.D.S., from Associate Professor to Professor of Oral Pathology.

Faculty of Education

Marion Dixon Jenkinson, B.A., Ph.D., Assistant Professor of Education.

Elizabeth Filipkowski, B.Ed., Lecturer in Music and English.

John Ernest Cheal, B.Ed., Assistant Professor of Educational Administration.

John M. Macdonald, M.A., Ed.B., Ph.D., Assistant Professor of Educational Psychology.

Evelyn Ruth Moore, M.A., Assistant Professor of Education.

Manoly R. Lupul, B.A., B.Ed., M.Ed., Assistant Professor of Education.

William B. Dockrell, B.A., B.Ed., Assistant Professor of Educational Psychology.

Douglas H. Crawford, B.Sc., M.A., Ed.B., Assistant Professor of Education.

Gordon Leslie Mowat, B.Sc., M.A., Ed.D., from Associate Professor to Professor of Educational Administration.

Russell Stuart MacArthur, B.Ed., Ph.D., from Associate Professor to Professor of Educational Psychology.

Earl William Buxton, B.A., B.Ed., M.A., Ph.D., from Associate Professor to Professor of Secondary Education.

Jean Downie Dey, B.Ed., from Assistant to Associate Professor of Elementary Education.

Arthur George Storey, B.A., B.Ed., M.Ed., from Assistant to Associate Professor of Education, Calgary.

Ahron Eliezer David Schonfield, M.A., from Assistant to Associate Professor of Educational Psychology, Calgary.

Faculty of Engineering

Elmer W. Brooker, M.Sc., Assistant Professor of Civil Engineering.

Ynte Jacob Fokkinga, Ir., Assistant Professor of Electrical Engineering.

Czeslae Mateusz Rodkiewicz, Dipl. Eng., Assistant Professor of Mechanical Engineering.

Peter Glockner, B.Sc., M.Sc., Assistant Professor of Civil Engineering.

Antonio J. Celis, B.S., M.S., Assistant Professor of Civil Engineering.

William V. Youdelis, B.Sc., M.Sc., Ph.D., Assistant Professor of Metallurgy.

Donald Quon, M.Sc., Sc.D., Associate Professor of Chemical Engineering.

Richard T. Hart, M.S., Assistant Professor of Petroleum Engineering.

James Stewart Kennedy, M.Sc., from Assistant to Associate Professor of Applied Mechanics.

Jan Leja, A.R.S.M., B.Sc., Dip. Ing., Ph.D., from Assistant to Associate Professor of Metallurgy.

School of Household Economics

Margaret Campion, B.Sc., H.Ec., M.Ed., from Lecturer to Assistant Professor of Household Economics.

Melvina Victoria Gowda, B.Sc., Instructor in Household Economics.

Kathleen Shirley Manser, B.A., Assistant Dietitian, University Residences.

Lila G. Mann, B.Sc., H.Ec., Dietitian, University Residences.

Faculty of Law

The Honourable Mr. Justice Ronald Martland, B.A., LL.B., B.C.L., Honorary Professor of Law.

Faculty of Medicine

Olav Rostrup, M.D., F.A.C.S., F.R.C.S.(C), F.A.A.O.S., Clinical Professor of Orthopaedic Surgery.

Isabelle Elizabeth Pearce, B.A., M.Sc., Ph.D., from Lecturer to Assistant Professor of Bacteriology.

Thomas A. S. Boyd, M.B., Ch.B., Associate Professor of Ophthalmology.

Kent M. Chapman, B.A., M.S., Assistant Professor of Physiology.

George Monckton, M.D., M.R.C.P., Associate Professor of Neurology.

Eric John K. Penikett, L.R.C.P., M.R.C.S., M.B., Associate Professor of Bacteriology.

Cyril Max Kay, B.Sc., Ph.D., Assistant Professor of Biochemistry.

Imelda Chenard, R.N., M.S.W., Lecturer in Psychiatry.

William Forster, M.B., B.S., D.P.M., Assistant Professor of Psychiatry.

Allan Greenwood Stewart, M.A., Ph.D., Associate Professor of Paediatrics.

Hector Ewart Duggan, M.D., F.A.C.R., from Clinical Professor to Professor of Radiology.

William C. Taylor, M.B., Ch.B., D.C.H., F.R.C.P.(C), from Assistant to Associate Professor of Paediatrics.

Edward Alexander Gain, B.A., M.D., from Clinical Professor to Professor of Anaesthesiology.

Konstanty Piotr Kowalewski, M.D., Ph.D., from Assistant to Associate Professor of Experimental Surgery.
Cecil Melville Couves, B.A., M.D., F.R.C.S.(C), Lecturer in Surgery.

School of Nursing

Shirley Marie Stinson, B.Sc., M.N.A., R.N., Lecturer in Nursing.
Margaret Murray Campbell, B.A.Sc., M.P.H., R.N., Assistant Professor of Nursing.
Margaret Melinda Madden, B.A., M.T.D., R.N., Lecturer in Obstetrical Nursing.

Faculty of Pharmacy

Keith Henry Palmer, M. Pharm., D. de l'U., Assistant Professor of Pharmacy.
John Randolph Murray, M.Sc., Ph.D., from Associate Professor to Professor of Pharmacy.
Bernard Edward Riedel, M.Sc., Ph.D., from Associate Professor to Professor of Pharmacy.

School of Physical Education

Murray Frank Robert Smith, B.Ed., from Lecturer to Assistant Professor of Physical Education.
Audrey Marie Carson, B.Ed., from Lecturer to Assistant Professor of Physical Education.
Clare James Drake, B.P.E., B.Ed., Lecturer in Physical Education.
Donald de Frayne Macintosh, B.Ed., in Physical Education, from Lecturer to Assistant Professor of Physical Education, Calgary.
Luther Goodwin, B.A., B.Ed., M.Ed., from Associate Professor to Professor of Physical Education.

School of Physiotherapy

Moyna Jeanette Gordon, M.C.S.P., from Lecturer to Assistant Professor of Physiotherapy.

Library

Wilfrid Clarence Rudy, B.A., B.L.S., Assistant Cataloguer.

Administration

Beverly Whitmore Brooker, B.Sc., Superintendent of Buildings.
Harold Richard Hawes, B.Sc., from Assistant Registrar to Associate Registrar.
Lynn Parkes Morgan, B.A., from Assistant to the Registrar to Assistant Registrar.
Robert Barry Wishart, B.Com., Administrator of Student Awards.

Department of Extension

Margaret Hume Galloway, B.A., Librarianship Diploma, Assistant Librarian.

Banff School of Fine Arts

John Christian Kenneth Madsen, B.Com., Assistant Director.
N. George Shaw, Secretary.

Table III—Leave of Absence

Walter Worth, M.Ed., Ph.D., Assistant Professor of Education.
Robert Valentine Blackmore, D.D.S., Assistant Professor of Operative Surgery.
Irwin Guttman, B.Sc., M.A., Ph.D., Assistant Professor of Mathematics.

Robert Johnston Craig Harper, M.A., Assistant Professor of Educational Psychology.

William Mackenzie, B.Sc., B.Litt., M.S., Associate Professor of Economics.

Robert Hugh Knowles, B.S.A., M.Sc., Associate Professor of Horticulture.

James Baird Haddow, B.Sc., Assistant Professor of Mechanical Engineering.

Blanche Giffen, M.A., B.Sc., in L.S., Medical Librarian.

Jules Tuba, M.Sc., Ph.D., Professor of Biochemistry.

George Klaus Horton, B.Sc., A.R.C.S., M.Sc., Ph.D., Associate Professor of Mathematics and Theoretical Physics.

Bernal Ernest Walker, M.A., Ph.D., Diplome de l'E.P.P.F.E., Professor of Education.

Walter Dunham Gainer, B.Sc., M.S., Associate Professor of Economics.

Willard Finlay Allen, B.Sc., M.A., Ph.D., Associate Professor of Chemistry.

Henry George Glyde, A.R.C.A., R.C.A., Professor of Fine Arts.

Avadh Behari Bhatia, M.Sc., D.Phil., Ph.D., Associate Professor of Physics.

Table IV—Retirements

William Scott Hamilton, D.D.S., F.A.C.D., F.D.S.R.C.S., Professor of Oral Surgery and Dean, Faculty of Dentistry.

Harold Ray Thornton, B.Sc., Ph.D., Professor of Dairying.

Evangeline Alberta Hastie, B.A., Associate Professor of Physical Education.

Table V—Resignations

Andrew Stewart, B.S.A., M.A., D.Econ., F.R.S.C., F.A.I.C., President.

John Mercel Robson, M.A., Ph.D., Assistant Professor of English.

John Lewis Morrison, M.Sc., Ph.D., F.C.I.C., Professor of Chemistry.

Winfield S. Carrick, B.A., Lecturer in Business Administration.

Emmett Wallace, B.M.E., M.B.A., Associate Professor of Business Administration.

George Archibald Brass, D.D.S., B.S.D., Professor of Operative Dentistry.

William Arthur Quigley, L.D.S., D.D.S., M.S., Professor of Orthodontics.

Joyce Gertrude Lister, B.Sc., Dietitian, University Residences.

Victor Ernest Graham, B.A., M.A., Ph.D., Associate Professor of French and Assistant Director, Calgary.

Cleeve Russell Amies, M.R.C.S., L.R.C.P., M.B., B.S., D.T.M., H.M.D., M.R.C.P., Professor of Preventive Medicine.

Loretta Millar, B.A., B.L.S., Library Assistant.

Shanti S. Gupta, M.A., Ph.D., Associate Professor of Mathematics.

Heinz Helfenstein, M.Sc., Ph.D., Assistant Professor of Mathematics.

Stanley Charles Tremayne Clarke, M.A., M.Ed., Ed.D., Professor of Educational Psychology.

Robert Macdonald Hardy, B.Sc., M.Sc., D.Sc., D.L.S., Professor and Dean of the Faculty of Engineering.

Harold Byron Barnett, A.R.C.T., B.A., Mus. Bac., M.A., Associate Professor of Education (Music).

Table VI—Gifts

From Calgary Power Limited, \$8,337.39 to Electrical Engineering re network analyser.

From the John and Mary R. Markle Foundation, \$12,000 for Markle Scholars in Medical Science, 1958 and 1959.

From the Alberta Heart Foundation, \$19,040.

From Harrisons & Crosfield (Canada) Limited and from Northwest Nitro-Chemicals Ltd., \$1,000 grant each for nitrogen fertilizer research in the Department of Soil Science.

From Pembina Pipe Line Limited, \$4,800 grant for Pipe Line Flow of Sulphur research.

From Merck & Co. Limited, \$200.

From Brewing & Malting Research Institute, \$4,000 to Department of Plant Science.

From the Cables Securities Limited, \$1,000 to the Colonel J. H. Woods Canada-U.S. Relations Trust Fund.

From the Department of Labour, \$1,500 for research under the direction of F. R. Anton.

From the Maple Leaf Milling Company, \$1,262.16 to the Department of Plant Science.

From the Land and Forest Conservation and Utilization Committee, Province of Alberta, \$35,000 for operating costs of the Soil and Feed Testing Laboratory.

From Builders' Supplies Limited, a specimen of a cross section of a large Douglas Fir to the Department of Botany.

From the Edmonton Civic Employees' Welfare Chest Fund, \$750 to assist in research on Multiple Sclerosis.

From the Calgary Citizenship Council, \$500 for continuing the plan for Bursaries for New Canadians.

From Mrs. R. L. Hoar, a presentation copy of the report of progress of the Geological Survey of Canada from its commencement until 1863 to the Department of Geology.

From the Canada Council, \$127,000 to the Banff School of Fine Arts.

From the CIBA Company Limited, \$2,000 for research under the direction of Dr. R. S. Fraser.

From M. Panchyshyn, the Independent Wholesale Ltd., \$50 towards a Ukrainian collection of books at the University.

From the 1957 Class of Life Insurance Marketing Institute, \$2,110 to the Banff Foundation.

To the Petroleum Production and Reservoir Research Fund under the discretion of Dr. D. L. Flock: Calvin Consolidated Oil and Gas Co. Ltd., \$150; Western Leaseholds Ltd., \$150; D. S. Harvie, \$300; California Standard Company, one industrial minipump; Shell Oil Company of Canada Ltd., \$5,000; British American Oil Co. Ltd., \$2,000; Sun Oil Co., \$500.

From the Alberta Branch of the Canadian Society of Hospital Pharmacists, \$15 to the Faculty of Pharmacy.

From the Canadian Life Insurance Officers Association, \$4,500 for the Association's Fellowship, 1958-59.

From N. S. Trouth, Kelwood Corporation Limited, \$135 to the President's Trust Fund.

From California Standard Company, \$500 for photogeological work.

From Miss Agnes R. Girduckis, \$200 to aid a worthy education student.

From Charles Pfizer and Company Inc., \$50 for the purchase of new books on Pharmacology.

From the Consolidated Mining & Smelting Company of Canada Limited, \$4,000 for research on light weight zinc base alloys under the direction of Dr. J. G. Parr.

From the Canadian Foundation of Poliomyelitis, \$1,340 for research on the effect of ultra-violet light on the healing of wounds under the direction of Dr. M. Carpendale.

From Mrs. O. J. Walker, a painting "Fort Edmonton in the 70's."

From Parke, Davis & Company, one rotary tablet compressor to the Faculty of Pharmacy.

From the Canadian Foundation for the Advancement of Pharmacy, \$1,200 to provide half of two teaching fellowships in the Faculty of Pharmacy.

From Shell Oil Company of Canada Limited, \$500 grant-in-aid.

From Canadian Industries Limited, \$300 grant-in-aid.

From Western Leaseholds Ltd., \$250 grant-in-aid.

From Canadian Fina Oil Limited, \$250 grant-in-aid.

From DuPont Company of Canada, \$200 grant-in-aid.

From DuPont Company of Canada, \$200 grant-in-aid.

From the Procter & Gamble Company of Canada Ltd., \$600 grant-in-aid.

From Ellison Milling and Elevator Company, \$651.08 for Soft Wheat Research.

From the Western Canada Dental Society, \$2,000 to the Garvin Scholarship Fund.

From Mrs. H. Lawrence, pressed algae to the Department of Botany.

From the Graduating Class of 1958, \$110.

From Mr. J. Weber, camera equipment to the Department of Experimental Surgery.

From Canadian Chemical Company, \$400 for a continuing program of research related to the petrochemical industry.

From the Canadian Renderers Association Inc., \$1,500 to the Department of Plant Science.

From General Motors of Canada Limited, \$2,000 grant-in-aid.

From Cyanamid of Canada Limited, \$1,800 for research under the direction of Dr. B. Hocking.

From the Kiwanis Club of Calgary, \$300 scholarship.

From the Harvie Foundation, \$3,000 to the Alfalfa project in the Department of Plant Science.

From the Canadian Well Logging Society, \$75 to assist in the operation of the earth current observatory at Calmar, Alberta under the direction of Dr. G. D. Garland.

From Dr. J. S. Stewart, \$100 to assist in dental research.

From the Shevchenko Foundation, \$50 to the Gonsett Memorial Library.

From the Hoover Company, demonstration equipment valued at \$375 to the School of Household Economics.

From the Multiple Sclerosis Society, Edmonton Chapter, \$175 for research in the Department of Physiology.

From the W. K. Kellogg Foundation, \$34,420 being the 1958-59 grant to the Faculty of Education.

From the Alberta Wheat Pool, \$4,000 for alfalfa research in the Department of Plant Science, and \$380 for nitrogen fertilizer research in the Department of Soil Science.

From Mrs. E. C. Munson, \$100 for medical research under the direction of Dr. C. M. Couves.

From the California Standard Company, \$500 grant-in-aid.

From Texaco Exploration Company, books valued at \$2,500 to the Faculty of Law.

From Alberta Oil Tool Co. Ltd., \$150 special bursary for graduate student in Petroleum Engineering.

From the Muttart Foundation, \$6,000 to support the Chair in Medicine.

From the Canadian Women's Theatre Guild, the Elizabeth Sterling Haynes Scholarship Fund.

From the Nutrition Foundation Inc., \$2,500 to assist in the study of the relationship of Vitamin E and B6 to blood and brain lipids being carried out by Dr. E. T. Pritchard.

From the Federated Republic of Germany, a gift of German books.

From Sheritt Gordon Mines Limited, \$150 for research under the direction of Dr. J. G. Parr.

From Mr. N. D. McDermid, \$500.

From the McCullough Tool Company, \$1,500 for needy students in Petroleum Engineering.

From Imperial Oil Limited, \$3,000 grant-in-aid to University and \$1,250 grant-in-aid to the Department of Geology.

From Canadian Chemical & Cellulose Company Ltd., \$1,100 to the Department of Chemical Engineering.

From Dr. Baden Powell, \$50 to the Post-Graduate Fund in Dentistry.

From Mr. N. J. Tidsbury, \$100 to the Student Loan Fund.

From the Muscular Dystrophy Association of Canada, \$19,700 for research under the direction of Dr. C. M. Kay.

From C. H. Grant, Q.C., an unbound set of the Canada Bar Review, Volumes 1-35, and the Annual Proceedings of the Canada Bar Association from 1914-date, to the Faculty of Law.

From K. A. McKenzie, Q.C., to the Faculty of Law, Volumes 1 to 24 of the Ontario Law Reports, Volumes 25 to 32 of the Ontario Reports and Volumes 1-17 of Canadian Criminal Cases.

From Lymburn, Cobbledick and Klingle, \$500 being a grant from the Robert Tegler Trust for Multiple Sclerosis research.

From Interprovincial Cooperatives Limited, \$750 for experimental work with fertilizers in the Department of Soil Science.

From Western Business Research Institute, \$3,500 to the Business Education Program of the Banff Centre for Continuing Education.

From the Canadian Foundation for the Advancement of Pharmacy, \$500 to the Faculty of Pharmacy to support a student to carry on research during the summer.

From Mrs. I. Gonsett, \$500 to the Gonsett Library Fund for Ukrainian books.

From Calgary Power Ltd., subscription to C.I.G.R.E. for the year 1959 to the Faculty of Engineering.

From the Cultural Committee of the Canadian Polish Congress, 160 books about Poland, to the Rutherford Library.

From Merck, Sharp & Dohme, \$200 for a visiting lecturer in Medicine.

From International Nickel Company of Canada Ltd., \$5,000 to assist teachers and/or guidance counsellors in preparatory schools at a summer seminar at this University.

From International Nickel Company of Canada Limited, \$20,000.

From Western Canada Ropes, \$100 to the President's Trust Fund.

From the Alberta Chapter, Canadian Foundation for Poliomyelitis & Rehabilitation, \$479.20 to the Medical Library for 1957 and 1958.

From Mr. Basil Dean, Calgary Herald, \$1,000 to the Banff School of Fine Arts Building Fund.

From the National Heart Foundation of Canada, \$2,450 for heart research under Dr. E. C. Elliott.

From the Alberta Tuberculosis Association, \$396.05 to the Library.

From Mr. and Mrs. G. K. Watts, \$50 towards heart research under the direction of Dr. R. S. Fraser.

From the Alberta Home Economics Association, \$150 to the Mabel Patrick Award Fund.

From Mr. K. M. Johnson, \$10 to the Department of Extension.

From Sandoz Pharmaceuticals, \$50 to the Department of Physiology and Pharmacology for books.

From Amchem Products Inc., \$500 for weed control research under the direction of Dr. W. G. Corns.

From the Edmonton Civic Employees, \$8,000 for a fellowship at the McEachern Laboratory.

From Canadian Industries Limited, \$1,600 to the Department of Zoology.

From Cyanamid of Canada, \$1,800 for research under Dr. W. G. Evans.

From International Nickel Company of Canada Ltd., \$5,000 grant for titanium research under the direction of Dr. J. G. Parr.

From the College of Physicians and Surgeons, \$300 to the Library.

From Mr. W. B. Gill, \$10 to the President's Trust Fund.

From Eldorado Mining and Refining Limited, \$15,000 to the Department of Mining and Metallurgy for research under the direction of Prof. Lilge.

From the Multiple Sclerosis Society of Canada, \$1,670 for research under the direction of Dr. J. D. Taylor.

From the Class of '59, \$110 to commission a portrait of Dr. Andrew Stewart by Prof H. G. Glyde.

From Mr. H. A. Dyde, gift of land—north half of NW 15-51-26-W4.

From the Department of Citizenship and Immigration, \$500 to the Department of Extension to assist with the Rural Leadership Course in Banff.

From the Edmonton Home Economics Association, \$350 to the Mabel Patrick Award Fund.

From Dr. and Mrs. M. R. Marshall, portraits of Dr. J. J. Ower and Dr. J. W. Scott, to be placed in the Medcial Building.

From the Department of National Defence, \$45,340.

To the Banff School of Fine Arts Scholarship Fund, \$9,195.09.

To the Banff Foundation, \$2,000.

From the National Cancer Institute, \$40,672.09.

From Canadian Cancer Society, \$12,950.

From the Canadian Department of Agriculture, \$29,600.

From the National Research Council, \$288,000.

Table VII—New Scholarships and Prizes

(Scholarships and Prizes which were presented to the University in earlier years and which continue to be provided annually by the donors are acknowledged in the General Section of the University Calendar.)

The Johnson Foundation Graduate Scholarship Award, to be awarded to a graduating student registered at a Canadian University of a maximum value of \$1,800, according to need, to cover the cost of travel and one academic year of study at a United States University or College of the student's selection.

The Carswell-Sweet and Maxwell Scholarship in Law, to be awarded to a student in final year or post-graduate law studies in Canada in the amount of \$2,000 plus cost of travel to Great Britain return, tenable for one year at Cambridge University. Post-graduate work must be done in Anglo-Canadian law.

The University of Alberta Alumni Prize in Fine Arts for \$100, to be awarded annually by the General Alumni Association to the student in the Art Division of the Department of Fine Arts who has demonstrated the best progress. Financial need will be considered.

The Professor Osman James Walker Memorial Scholarship to be awarded annually to the student selected by the department of Chemistry graduating from the University of Alberta in the pass or honors program and who will be proceeding to graduate work in the Department of Chemistry at the University of Alberta.

The University Women's Club of Calgary Scholarship, increased from \$100 to \$200 beginning in the spring of 1960.

The Alberta Pharmaceutical Association prize consisting of registration with the Association for the student preparing the best thesis in Pharmacy 433, provided the record of the student is otherwise acceptable.

The Ukrainian Catholic Women's Award in the Ukrainian language for \$100 is awarded to the student with the highest standing in Ukrainian 100 provided the student's record is otherwise satisfactory to the Faculty Council.

The Calgary and District Retail Druggists' Association Scholarship for \$250 offered to a student of outstanding merit entering first year Pharmacy.

The Radio Station CFAC (Calgary) Scholarship in Music Composition for \$100 offered annually to a student registered in one or more courses in Music and who has shown promise in Composition.

The University Women's Club of Edmonton Bursary, increased from \$200 to \$250.

The Surgical Research Prize of \$50 to be awarded to a third or fourth year student in Medicine for the best manuscript submitted on an original Surgical Research topic.

The Ernest Wilson Sheldon Memorial Prize in Mathematics for \$50 to be awarded to a student of outstanding merit completing the third year of the honors program in mathematics.

Dr. J. M. MacEachran Gold Medal in Psychology.

The Canadian Bechtel Limited Bursary in Engineering valued at \$600 awarded annually on the basis of evidence of financial need and of matriculation standing to a matriculant from an Alberta High School qualified for admission to first year engineering.

The Canadian Bechtel Limited Special Bursary for 1958-59 of \$600 to be awarded to a Hungarian student from the University of Sopron for post-graduate work in petroleum engineering at the University of Alberta.

The Canadian Superior Bursary, offered by Canadian Superior Oil of California, to a male Canadian citizen entering first year of a course in geology or petroleum engineering. It will cover tuition fees and textbooks for a four-year period if a satisfactory standing is maintained.

The City of Medicine Hat Scholarship of \$500 offered annually to a student matriculating into the University of Alberta who has attended a Medicine Hat school from Grade VII to Grade XII.

The Loveseth Limited Scholarships in Agriculture: 4 scholarships of \$250 each are offered annually to students of outstanding merit entering second, third or fourth year Agriculture.

The Dr. O. J. Walker Memorial Prize of \$25, offered by the Alumni of Phi Delta Theta Fraternity to a student of outstanding merit in Chemistry 58.

The Northern Electric Undergraduate Scholarship, awarded annually to a student of outstanding merit who is proceeding into the second, third or fourth year of Electrical Engineering, Engineering Physics or Honors Physics, provides an amount not exceeding \$500 to cover tuition and general fees and the cost of books for one year.

The Nathan Browne Eddy Prize in Pharmacology, offered by Hoffman-LaRoche Ltd., to the value of about \$40, to a student who has successfully completed the second year of Medicine with an average standing of at least 75%, and has shown outstanding merit in the course in Pharmacology.

Table VIII—Staff Publications

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Table IX—Student Registration

SECTION A—FULL-TIME STUDENTS (Winter Session)																
Division I—Edmonton Campus																
Arts and Science																
1st Year 58-59	M	F	2nd Year 58-59		3rd Year 58-59		4th Year 58-59		5th Year 58-59		Males		Females		Total	
			M	F	M	F	M	F	M	F	M	F	57-58	58-59	57-58	58-59
B.A.	75	88	113	63	97	58	8	3	...	...	256	293	193	212	449	505
B.Sc.	216	41	165	38	135	31	17	4	...	...	447	533	93	114	540	647
B.A., B. Com.	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2
B.A., LL.B.	37	4	23	2	...	...	...	...	...	...	56	60	7	6	63	66
Pre dent	23	...	...	...	...	...	...	...	...	...	24	23	...	...	24	23
B.A. after B.Ed.	...	...	...	...	...	...	1	...	...	...	1	1	...	...	1	1
Dip. in Art	...	2	...	...	...	...	...	3	...	...	...	...	5	5	5	5
B. Mus.	1	2	...	...	...	...	...	...	...	...	...	1	...	2	...	3
Sub-Totals, Arts and Science	353	137	302	103	232	89	26	10	...	...	784	913	298	339	1082	1252
Agriculture	39	...	20	...	16	...	32	...	...	...	97	107	2	...	99	107
Commerce	56	9	37	2	41	2	...	...	...	...	121	134	10	13	131	147
Dentistry	30	...	26	1	28	...	24	1	...	...	107	108	2	2	109	110
Education	83	129	62	153	31	29	30	38	...	...	154	206	298	349	452	555
B.Ed.	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...
B.Ed. in Agric.	...	...	...	...	...	...	1	...	...	...	2	1	...	...	2	1
B.Ed. in Ind. Arts	...	...	...	...	...	...	49	33	...	...	23	49	18	33	41	82
B.Ed. after Prev. Degree	...	...	...	...	...	...	...	...	...	...	6	...	...	...	6	...
B.Ed. in Phys. Ed.	...	...	...	...	...	...	...	...	...	...	90	87	272	253	362	340
Junior E	87	253	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sub-Totals—Education	170	382	62	153	31	29	80	71	...	...	276	343	588	635	864	978
Engineering	27	...	118	2	74	...	59	...	...	...	297	278	...	2	297	280
Civil	25	...	61	1	51	...	34	...	...	...	211	171	2	1	213	172
Chemical	34	...	97	...	62	...	37	...	...	...	181	230	...	...	181	230
Electrical	...	...	...	...	...	...	6	1	...	...	23	23	1	1	24	24
Mining	4	...	9	...	4	...	...	...	...	...	95	72	1	...	96	72
Petroleum	5	...	24	...	21	...	22	...	...	...	22	24	...	...	22	24
Engin. Physics	4	...	2	...	12	...	6	...	...	...	5	2	...	...	5	2
Engin. Geol.	2	...	...	...	...	...	...	...	...	...	13	16	...	...	13	16
Metallurgical	1	...	5	...	3	...	7	...	...	...	61	...	...	...	61	...
Mechanical	9	...	33	...	19	...	...	...	...	...	184	254	2	...	186	254
Not Specified	254	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Sub-Totals—Engineering	365	...	349	3	246	...	171	1	...	...	1031	1131	6	4	1037	1135

Table IX—Student Registration—continued

	1st Year 58-59		2nd Year 58-59		3rd Year 58-59		4th Year 58-59		5th Year 58-59		Males 57-58 58-59		Females 57-58 58-59		Total 57-58 58-59	
	M	F	M	F	M	F	M	F	M	F						
Household Economics																
B.Sc. H.Ec.	29	14	19	19	19	19	19	19	19	19	71	62	71	62	1	62
B.H.Ec.	29	14	19	19	19	19	19	19	19	19	71	62	71	62	1	62
Sub-Totals—House Ec.	34	4	27	1	28	2	38	38	38	38	82	81	82	81	163	163
Law																
Medicine																
M.D.	47	4	52	5	50	2	53	1	53	1	201	202	9	12	210	214
B.Sc. in Medicine	1	17	1	1	1	1	1	1	1	1	1	1	1	1	1	1
B.Sc. in Med. Lab. Sci.	48	21	52	5	50	2	53	1	53	1	201	203	9	29	210	232
Sub-Totals—Medicine	96	22	105	11	101	5	107	3	107	3	403	406	19	42	445	448
Nursing																
B.Sc.	37	18	18	23	18	23	19	19	24	24	94	121	94	121	94	121
Diploma	149	88	88	77	88	77	77	77	77	77	281	314	281	314	281	314
Dip. in Pub. Health	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dip. in T. & S.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sub-Totals—Nursing	186	106	106	100	106	100	106	19	1	54	386	465	386	465	386	466
Pharmacy																
	28	35	34	22	28	14	22	22	22	22	88	90	51	71	139	161
Physiotherapy																
	21	25	22	22	22	22	22	22	22	22	44	47	44	47	44	47
Physical Education																
	21	6	10	8	17	8	8	8	8	8	35	48	20	22	55	70
Graduate Studies																
M.A.	32	34	34	16	34	16	34	16	34	16	32	34	16	34	48	53
M.Sc. (Arts)	39	34	34	4	34	4	34	4	34	4	39	34	4	34	43	37
M.Sc. (Agric.)	17	15	15	15	15	15	15	15	15	15	17	15	15	15	15	15
M.Sc. (Engin.)	42	50	50	50	50	50	50	50	50	50	42	50	50	50	42	50
M.Sc. (Pharm.)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
M.Sc. (Med.)	3	4	4	4	4	4	4	4	4	4	3	4	4	4	3	5
M.Ed.	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41
Ph.D.	31	42	42	3	42	3	42	3	42	3	31	42	3	42	51	55
Ed.D.	34	61	61	5	61	5	61	5	61	5	34	61	5	61	34	66
Provis. Grad.	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Special Grad.	240	307	307	34	307	34	307	34	307	34	240	307	34	51	274	358
Sub-Totals, Graduate Studies	240	307	307	34	307	34	307	34	307	34	240	307	34	51	274	358

Bachelor of Divinity										17	19	2	1	19	20
TOTALS EDMONTON CAMPUS										3081	3493	1543	1748	4624	5241
Division II—Calgary Campus															
Arts and Science															
B.A.	16	19	1	2	...	...	...	...	...	10	17	16	21	26	38
B.Sc.	50	6	1	...	...	...	...	...	...	24	51	10	6	34	57
B.A., LL.B.	11	1	...	...	...	...	...	...	...	7	11	...	1	7	12
Pre dent	4	...	...	...	...	...	...	...	...	6	4	...	...	6	4
Sub-Totals—Arts & Science	81	26	2	2	...	...	...	...	...	47	83	26	28	73	111
Commerce										16	18	3	2	19	20
Education															
B.Ed.	30	36	18	43	5	2	...	1	...	24	53	57	82	81	135
B.Ed. in Ind. Arts	13	...	9	...	5	...	...	1	...	17	28	1	...	18	28
B.Ed. after Prev. Degree .....	...	...	...	...	...	...	...	13	5	32	13	...	5	...	18
Junior E.	35	105	...	...	...	...	...	...	...	...	35	121	105	153	140
Sub-Totals, Education	78	141	27	43	10	2	14	6	...	73	129	179	192	252	321
Physical Education .....										...	1	1	...	1	1
Engineering															
Civil	13	...	...	...	...	...	...	...	...	11	13	...	...	11	13
Chemical	14	...	...	...	...	...	...	...	...	5	14	...	...	5	14
Electrical	18	...	...	...	...	...	...	...	...	6	18	...	...	6	18
Petroleum	6	...	...	...	...	...	...	...	...	3	6	...	...	3	6
Engin. Physics	2	...	...	...	...	...	...	...	...	...	2	...	...	2	...
Mechanical	4	...	...	...	...	...	...	...	...	...	4	...	...	...	4
Not specified	14	...	...	...	...	...	...	...	...	30	14	...	...	30	14
Sub-totals—Engineering	71	...	...	...	...	...	...	...	...	55	71	...	...	55	71
Nursing B.S. ....										...	...	19	19	19	19
TOTALS—CALGARY CAMPUS										191	302	228	241	419	543
GRAND TOTAL, SECTION A															
FULL-TIME STUDENTS										3272	3795	1771	1989	5043	5784

Table IX—Student Registration—continued

SECTION B—PART-TIME STUDENTS—DAYTIME CLASSES (Winter Session)	1st Year 58-59		2nd Year 58-59		3rd Year 58-59		4th Year 58-59		5th Year 58-59		Males 57-58 58-59		Females 57-58 58-59		Total 57-58 58-59	
	M	F	M	F	M	F	M	F	M	F	57-58	58-59	57-58	58-59	57-58	58-59
Division I—Edmonton Campus																
Arts & Science	23	30	10	15	33	45
Commerce	4	...	1	1	5	1
Education	7	11	15	16	22	27
Engineering	4	9	...	...	4	9
Household Economics	2	1	2	1	1
Nursing (B.Sc.)	2	1	2	2	1
Pharmacy	6	5	2	...	6	5
B.D.	1	...	...	...	1	...
TOTALS—DIVISION I	45	55	30	34	75	89
Division II—Calgary Campus																
Arts & Science	10	15	5	10	15	25
Commerce	3	3	...	...	3	3
Education	19	32	49	66	68	98
Engineering	1	...	...	...	1	...
Nursing	1	...	...	1	...
TOTALS—DIVISION II	33	50	55	76	88	126
GRAND TOTAL—SECTION B—PART-TIME STUDENTS—DAYTIME CLASSES	78	105	85	110	163	215
SECTION C—PART-TIME STUDENTS—EVENING CREDIT PROGRAM (Winter Session)																
Arts and Science																
Edmonton	35	32	20	27	55	59
Calgary	3	9	3	5	6	14
Camrose	1	2	2	3	3
Holden	1	1	1	...	2	1
Vegreville	2	...	...	2	2
Red Deer	1	...	...	...	2
Grande Prairie	1	1	...	...	1
Total	39	46	26	36	65	82

Calgary	19	14	5	3	24	17
Total	76	118	118	187	194	305
Education	19	31	29	66	48	97
Edmonton	17	...	10	...	27	...
Calgary	4	...	2	...	6	...
Lethbridge	7	26	13	30	20	56
Medicine Hat	24	28	5	8	29	36
Red Deer	10	14	8	17	18	31
Vegreville	3	11	8	13	11	24
Camrose	...	4	...	7	...	11
Holden	...	4	...	12	...	16
Grande Prairie	...	...	...	...	...	...
Barrhead	...	...	...	...	...	...
Total	160	236	193	340	353	576
Engineering	1	...	...	...	1	...
Edmonton	...	...	1	1	1	1
Household Economics	...	...	...	1	...	1
Edmonton	...	...	...	...	...	...
Camrose	...	...	...	...	...	...
Total	...	...	1	2	1	2
Nursing	...	...	4	2	4	2
Edmonton	...	...	...	1	...	1
Calgary	...	...	...	...	...	...
Total	...	...	4	3	4	3
Pharmacy	1	...	...	...	1	...
Edmonton	...	...	...	...	...	...
Graduate Studies	4	1	6	...	4	1
Edmonton	25	20	...	8	31	28
M.A.	1	...	...	...	1	...
M.Ed.	...	...	...	...	...	...
Provisional Grad.	...	...	1	...	1	...
Calgary	...	...	...	...	...	...
M.A.	...	3	...	...	...	3
M.Ed.	...	...	...	...	...	...
Lethbridge	1	...	...	...	1	...
M.A.	...	...	...	...	...	...
Total	31	24	7	8	38	32
GRAND TOTAL—SECTION C	251	320	236	392	487	712

Table IX—Student Registration—continued

SECTION D—SPECIAL STUDENTS	1st Year 58-59		2nd Year 58-59		3rd Year 58-59		4th Year 58-59		5th Year 58-59		Males 57-58 58-59		Females 57-58 58-59		Total 57-58 58-59	
	M	F	M	F	M	F	M	F	M	F						
Regular Winter Session—Edmonton and Calgary	62	75	29	74	91	149
Evening Credit Program	39	46	10	23	49	69
Edmonton	1	8	4	5	13	13
Calgary	2	...	...	...	2	...
Lethbridge	1	2	2	...	2	...
Medicine Hat	1	2	1	1	2	3
Red Deer	3	3	...	...	3	3
Vegreville	2	1	...	5	2	6
Holden	1	...	1
Camrose	1	...	...	...	...	...
Barrhead	4
GRAND TOTAL—SECTION D	107	136	46	112	153	248
GRAND TOTAL—PART I	3708	4356	2138	2603	5846	6959
PART II SUMMER SESSION 1958
Edmonton	843	966	1063	1258	1906	2224
Banff School	9	3	31	16	40	19
University Credit	80	87	380	461	460	548
Non-credit courses
TOTAL, PART II	932	1056	1474	1735	2406	2791
PART III SHORT COURSES
1958-1959	15	...	...	...	15	...
Diploma in Dairying
Diploma in Advanced Practical Obstetrics	10	7	10	7
TOTAL, PART III	15	...	10	7	25	7

Summary of Totals, Table IX

	1st Year 58-59 M	2nd Year 58-59 M	3rd Year 58-59 M	4th Year 58-59 M	5th Year 58-59 M	Males 57-58 58-59	Females 57-58 58-59	Total 57-58 58-59
PART I Winter Session								
Section A—Full Time Day								
Division I Edmonton	3081	1543	4624
Division II Calgary	191	228	419
Section B—Part-time Day								
Division I Edmonton	45	30	75
Division II Calgary	33	55	88
Section C—Part-time								
Evening Credit Program	251	236	487
Section D—Special Students								
PART II Summer Session 1958	107	46	153
PART III Short Courses 1958-59	932	1474	2406
	15	10	25
GRAND TOTAL	4655	3622	8277

Table X—Distribution of Students According to Age and Sex

Age	Male	Female	Total
14	1		1
16	17	20	37
17	186	236	422
18	536	624	1160
19	621	451	1072
20	534	276	810
21	437	161	588
22	375	103	478
23	291	55	346
24	191	50	241
25	176	43	219
26	133	28	161
27	103	30	133
28	107	24	131
29	82	17	99
30	68	25	93
31	51	24	75
32	47	29	76
33	50	18	68
34	37	23	60
35	27	25	52
36	24	23	47
37	20	21	41
38	25	23	48
39	21	14	35
40	11	22	33
41	12	18	30
42	21	18	39
43	29	17	46
44	15	23	38
45	13	15	28
46	17	20	37
47	14	24	38
48	9	10	19
49	3	9	12
50	14	21	35
51	7	15	22
52	3	8	11
53	5	15	20
54	6	6	12
55	1	7	8
56	3	5	8
57	2	5	7
58	3	2	5
59	1	3	4
60	1	1	2
61	1	2	3
62	0	1	1
63	1	0	1
64	1	0	1
66	0	1	1
67	1	0	1
70	0	1	1
73	1	0	1
	<hr/> 4356	<hr/> 2603	<hr/> 6959

Table XI—Classification of Students According to Religious Denomination

	Male	Female	Total
Anglican	460	356	816
Baptist	161	82	243
Christian Science	2	6	8
Church of Christ	7	9	16
Church of Nazarene	16	11	27
Greek Catholic	77	41	118
Greek Orthodox	219	95	314
Hebrew	98	35	133
Latter Day Saint (Mormon)	104	60	164
Lutheran	268	139	407
Methodist	6	5	11
Presbyterian	103	78	181
Protestant (Church not Specified)	31	15	46
Roman Catholic	684	391	1075
Russian Orthodox	4	2	6
Seventh Day Adventist	5	4	9
Ukrainian Orthodox	43	23	66
United	1595	1061	2656
Others	304	155	459
Not Specified	169	35	204
	<hr/> 4355	<hr/> 2602	<hr/> 6959

Table XII—Distribution of Students According to Sex and Marital Status

	Male	Female	Total
Single	3271	2168	5439
Married	1080	387	1467
Divorced	3	11	14
Widowed	2	37	39
	<hr/> 4356	<hr/> 2603	<hr/> 6959

Table XIII—Distribution of Students According to Birthplace of Father

A. British Empire—Commonwealth:

(a) Canada:

Alberta: Edmonton	203
Calgary	109
Lethbridge	32
Medicine Hat	33
Red Deer	25
Vegreville	27
Wetaskiwin	27
Camrose	20
Cardston	28
On or North of Twp. 38	450
South of Twp. 38	285
Not specified	75

— 1307

Canada — not otherwise specified	115	
Newfoundland	15	
Nova Scotia	106	
Prince Edward Island	33	
New Brunswick	63	
Quebec	121	
Ontario	674	
Manitoba	295	
Saskatchewan	320	
British Columbia	75	
Yukon and N.W.T.	2	
	<hr/>	3126
(b) Other Parts of British Empire—Commonwealth		
British Isles (including Eire)	1080	
Dominions (S. Africa, New Zealand, Australia)	18	
All other British colonies, dependencies and members of the Commonwealth (including India, Pakistan, Ceylon, Rhodesia, Kenya, Guiana, etc.)	45	
	<hr/>	1143
<i>B. Countries Outside British-Empire Commonwealth:</i>		
United States of America	680	
Poland and Czechoslovakia	314	
Russia and Ukraine	488	
Balkan States	68	
Scandinavian States	193	
Germany - Austria	347	
France	21	
Hungary	58	
China, Japan	113	
Holland	81	
Others	161	
	<hr/>	2524
<i>C. Information not specified</i>		166
	<hr/>	
TOTAL		6959
	<hr/>	

Table XIV—Distribution of Students According to Father's Occupation

This table will appear only once in five years, the next occasion being the Report for 1962-63.

Table XV—Distribution of First Year Students Not Previously in Attendance
According to Faculty and Home Address (Excluding Evening Credit Program)

ATTENDING EDMONTON

FACULTY	ATTENDING EDMONTON																	Total
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified
Arts and Science	206	28	8	4	13	2	3	5	2	2	79	50	7	24	4	1	3	3 441
Agriculture	5	1	1	1	1						17	10		1				36
Commerce	30	3	2	1				1	1	1	3	4		4	1			51
Education	107	1	1	5	9	1	5	4	4	9	299	59	1	10	1			2 515
Physical Education	9	1	1	2							8							23
Engineering	115	9	9	1	6	1	3	1		1	84	69	1	3	3	1	3	1 321
Household Economics	12	1	2			1		1			5	5		1				28
Medicine (Med., Lab. Sci.)	7	1									4	1		2				15
Physiotherapy	4	3			1			1			3	3		5				20
Nursing (including diplomas)	48	9	2	2	4		3	4			53	20		20				165
Pharmacy	22	2	1	1	1					1	18	9		2				57
Totals	565	58	27	15	35	5	14	17	7	11	573	230	9	85	9	2	3	7 1672

ATTENDING CALGARY

Arts and Science	1	87	1	1	1	1	1	1	1	1	1	1	1	1	1	1	101
Commerce	4	18	2	3	1	4	4	4	4	4	4	4	4	4	4	4	18
Education	4	68	2	3	1	4	4	4	4	4	4	4	4	4	4	4	210
Physical Education		1															1
Engineering		52	1	2													68
Nursing		2															4
Totals	5	228	3	5	2	4	4	4	4	4	4	4	4	4	4	4	402

Table XVI—Distribution of Daytime Students by Faculty and Home Address
ATTENDING EDMONTON

FACULTY	EDMONTON																		Total
	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified		
Arts and Science	583	156	23	10	35	4	6	10	4	4	195	157	13	74	9	5	2	71297	
Agriculture	15	1	3	1	1	1	1	1	1	1	43	37	3	3	1	1	1	107	
Commerce	73	12	5	1	2	1	1	1	1	1	28	13	1	6	2	2	2	148	
Dentistry	33	6	1	1	1	1	1	1	1	1	10	6	2	47	2	2	2	110	
Education	269	15	14	10	16	6	7	7	7	11	472	136	2	29	2	2	2	1005	
Physical Education	29	2	1	1	1	1	1	3	1	1	17	6	7	6	7	4	9	70	
Engineering	445	104	29	10	17	1	5	4	2	3	264	169	7	63	7	4	9	11144	
Household Economics	23	6	3	1	1	1	1	1	2	3	14	11	1	3	4	1	1	63	
Law	55	16	2	2	1	1	1	1	1	1	6	7	4	15	4	1	1	96	
Physiotherapy	15	4	2	2	1	1	1	1	1	1	5	4	4	4	4	1	1	47	
Medicine	99	29	6	2	4	1	1	3	2	3	37	28	4	10	3	2	1	232	
Nursing	149	29	14	4	11	3	9	7	1	5	129	56	2	49	3	2	1	468	
Pharmacy	74	13	6	1	3	1	1	1	1	3	44	17	2	4	34	6	4	166	
Graduate Studies	181	27	4	3	3	1	1	2	1	1	22	18	20	25	34	6	4	357	
B.D.	9	2	1	1	1	1	1	1	1	1	4	3	1	2	2	1	2	20	
Special Students	97	3	1	1	1	1	1	1	1	1	11	2	1	9	3	1	2	132	
Totals	2149	425	113	47	94	16	30	42	24	31	1301	670	49	349	63	18	19	225462	

ATTENDING CALGARY

Arts and Science	1	119			1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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Table XVII—Distribution of Evening Credit Program Students by Faculty and Home Address

ATTENDING EDMONTON

FACULTY	ATTENDING EDMONTON																		Total
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Mid., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified	
Arts and Science	49	3									6			1					
Commerce	12	1											1						
Education	218	3	2		1		1		1		56	12	1	7		1		2	
Household Economics														1					
Nursing	2																	1	
Graduate Studies	24	1									1	3						2	
Special Students	53			1							10	1		4				69	
Totals	358	8	2	1	1		1		1		73	16	2	13		1		2 479	

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Arts and Science		14																	14
Commerce		3																	3
Education		73	1					1			6	12	1	2			1		97
Nursing		1																	1
Graduate Studies		3																	3
Special Students		10		1								1	1						13
Totals		104	1					1			6	13	2	2			1		131

FACULTY	Total																	
	Edmonton	Calgary	Lethbridge	Medicine Hat	Red Deer	Vegreville	Wetaskiwin	Camrose	Cardston	Grande Prairie	Others (on or North of Twp. 38)	Others (South of Twp. 38)	Nfld., N.S., P.E.I., N.B., Que., Ont.	Man., Sask., B.C., Y.T., N.W.T.	British Commonwealth	U.S.A.	Other Countries	Not specified
Arts and Science	1					1					1							
Education						16					19							
Special Students						2												
Totals	1					19					21							41

[illegible]

	1	24	6	31
Arts and Science				
Education				
Special Students				
Totals	1	24	6	31

ATTENDING CAMROSE

[illegible]

ATTENDING GRANDE PRAIRIE

[illegible]

ATTENDING BARRHEAD

Education Special Students	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Totals	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	1
															4	4
															19	20

Table XVIII—Distribution of Students According to Pattern, Honors and Branch

Arts and Science		1st Year				2nd Year				3rd Year				4th Year				Unclassified		Total
		57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59	57-58	58-59			
B.A.—Pattern																				
English	19	28	18	25	23	15	...	...	...	...	...	...	...	...	60	68	...	...	...
Music	5	7	3	3	3	2	...	...	...	...	...	...	...	...	11	12	...	...	...
Foreign Language or Literature	12	22	11	9	9	6	...	...	...	...	...	...	...	...	32	37	...	...	...
History	22	30	23	44	18	24	...	...	...	...	...	...	...	...	63	98	...	...	...
Philosophy	...	17	...	1	...	6	...	...	...	...	...	...	...	...	...	24	...	...	...
Philosophy or Psychology	49	...	47	...	37	...	...	...	...	...	...	...	...	...	133	...	...	...	...
Economics	34	16	27	27	21	30	...	...	...	...	...	...	...	...	82	73	...	...	...
Art	2	3	3	1	1	3	...	...	...	...	...	...	...	...	6	7	...	...	...
Political Science	5	5	4	6	3	1	...	...	...	...	...	...	...	...	12	12	...	...	...
Geography	2	3	1	4	4	4	...	...	...	...	...	...	...	...	7	10	...	...	...
Drama	2	6	4	2	3	3	...	...	...	...	...	...	...	...	9	11	...	...	...
Sociology	5	10	3	8	1	6	...	...	...	...	...	...	...	...	9	24	...	...	...
Psychology	...	53	...	35	...	37	...	...	...	...	...	...	...	...	...	125	...	...	...
No pattern	...	...	...	2	...	1	...	...	...	...	...	...	...	...	...	3	...	...	...
B.Sc.—Pattern																				
Chemistry	35	66	33	25	14	28	...	...	...	...	...	...	...	...	82	119	...	...	...
Mathematics	7	12	8	9	1	7	...	...	...	...	...	...	...	...	16	28	...	...	...
Physics	10	40	10	11	8	4	...	...	...	...	...	...	...	...	28	55	...	...	...
Geology	41	37	37	16	31	40	...	...	...	...	...	...	...	...	109	93	...	...	...
Botany	1	4	...	3	...	...	...	...	...	...	...	...	...	...	1	7	...	...	...
Entomology	...	1	...	...	2	2	...	...	...	...	...	...	...	...	2	3	...	...	...
Zoology	46	61	51	50	24	27	...	...	...	...	...	...	...	...	121	138	...	...	...
Special B.Sc. Course	18	6	9	13	10	5	...	...	...	...	...	...	...	...	37	24	...	...	...
Experimental Psychology	14	16	7	9	2	3	...	...	...	...	...	...	...	...	23	28	...	...	...
Geography	1	1	1	1	...	1	...	...	...	...	...	...	...	...	1	2	...	...	...
General Science	6	19	11	21	3	19	...	...	...	...	...	...	...	...	20	59	...	...	...
No pattern	1	1	...	...	1	...	...	...	...	...	...	...	...	...	2	1	...	...	...
Engineering																				
Civil	64	39	131	119	60	74	...	...	...	...	...	...	...	...	308	291	...	...	...
Chemical	65	39	66	62	40	51	...	...	...	...	...	...	...	...	218	186	...	...	...
Electrical	63	52	50	97	47	62	...	...	...	...	...	...	...	...	187	248	...	...	...
Mining	3	4	3	9	8	4	...	...	...	...	...	...	...	...	24	24	...	...	...
Petroleum	27	11	32	24	24	21	...	...	...	...	...	...	...	...	98	78	...	...	...
Engineering Physics	7	6	1	2	7	12	...	...	...	...	...	...	...	...	22	26	...	...	...
Engineering Geology	5	2	...	...	...	...	...	...	...	...	...	...	...	...	5	2	...	...	...
Metallurgical	2	1	3	5	7	3	...	...	...	...	...	...	...	...	13	16	...	...	...
Mechanical	...	13	...	33	...	19	...	...	...	...	...	...	...	...	...	65	...	...	...
Not specified	202	268	5	...	...	...	...	...	...	...	...	...	...	...	207	268	...	...	...
Honors																				
Biochemistry	1	3	4	2	1	5	...	...	...	...	...	...	...	...	6	10	...	...	...
Botany	3	...	...	...	...	3	...	...	...	...	...	...	...	...	3	...	...	...	...

Chemistry	17	20	5	12	6	4	8	5	36	41
Classics	.....	.....	.....	.....	.....	2	.....	.....	.....	2
Conservation Biology	.....	.....	1	.....	2	1	.....	2	4	2
English	4	1	3	1	2	2	1	2	4	2
Geology	9	9	5	11	1	8	4	1	12	5
History	2	4	.....	5	3	1	1	2	22	34
Applied Mathematics	.....	.....	1	.....	.....	.....	.....	.....	6	12
Mathematics	7	12	5	7	5	4	.....	2	17	1
Modern Languages	1	5	9	1	5	1	3	5	18	25
Philosophy	.....	.....	.....	7	.....	.....	.....	.....	20	20
Psychology	1	5	.....	1	1	1	1	8	1	21
Physics	8	21	1	2	2	2	4	1	7	5
Economics	1	.....	8	11	7	3	3	5	26	44
Business Administration	1	2	2	2	1	2	2	1	6	7
Zoology	.....	.....	.....	.....	2	2	.....	.....	1	.....
Physics and Geology	2	3	6	.....	2	2	.....	1	10	6
Physiology	.....	1	3	2	.....	1	.....	.....	3	4
Political Science	1	1	1	.....	2	1	1	1	3	1

Graduate Studies

Civil Engineering	.....	.....	.....	.....	.....	.....	.....	.....	.....	32
Chemical and Petroleum Engineering	.....	.....	.....	.....	.....	.....	.....	.....	.....	23
Electrical Engineering	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Biochemistry	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Botany	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Chemistry	.....	.....	.....	.....	.....	.....	.....	.....	.....	40
Classics	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
English	.....	.....	.....	.....	.....	.....	.....	.....	.....	15
Entomology	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Geology	.....	.....	.....	.....	.....	.....	.....	.....	.....	21
History	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Mathematics	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Modern Languages	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
Philosophy and Psychology	.....	.....	.....	.....	.....	.....	.....	.....	.....	23
Physics	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
Political Economy	.....	.....	.....	.....	.....	.....	.....	.....	.....	8
Zoology	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Physiology and Pharmacology	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Anatomy	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Animal Science	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Bacteriology	.....	.....	.....	.....	.....	.....	.....	.....	.....	5
Dairying	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
Education	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Medicine and Clinical Med.	.....	.....	.....	.....	.....	.....	.....	.....	.....	72
Mining and Metallurgy	.....	.....	.....	.....	.....	.....	.....	.....	.....	13
Paediatrics	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Pharmacy	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Plant Science	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Soil Mechanics	.....	.....	.....	.....	.....	.....	.....	.....	.....	11
Soil Science	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Surgery and Clinical Surgery	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
Not specified	.....	.....	.....	.....	.....	.....	.....	.....	.....	13
	.....	.....	.....	.....	.....	.....	.....	.....	.....	2

Table XIX—Degrees and Diplomas Awarded

DEGREES AWARDED				DIPLOMAS AWARDED			
	Fall 1958	Spring 1959	Total		Fall 1958	Spring 1959	Total
ARTS & SCIENCE				Licentiate in Music ..	1	.....	1
B.A.	30	125	164	Associate in Music ..	3	2	5
B.Sc.	27	87	114	Diploma in Art .....	.....	2	2
			278				
AGRICULTURE							
B.Sc.	2	31	33				
COMMERCE							
B. Com.	2	35	37				
DENTISTRY							
D.D.S. ....	....	26	26				
EDUCATION							
B.Ed.	136	84	220	Senior	217	*	217
B.Ed. in Industrial				Junior Elementary ..	59	*	59
Arts	2	2	4	Junior High School ..	122	*	122
			224				398
ENGINEERING				*Education diplomas are no longer awarded.			
B.Sc. in Chemical							
Engineering	2	28	30				
B.Sc. in Civil							
Engineering	2	56	58				
B.Sc. in Electrical							
Engineering	1	29	30				
B.Sc. in Metallurg-							
ical Engineering ..	....	6	6				
B.Sc. in Mining							
Engineering .....	....	5	5				
B.Sc. in Petroleum							
Engineering	2	22	24				
B.Sc. in Engineering							
Physics .....	....	6	6				
			159				
HOUSEHOLD ECONOMICS							
B.Sc. in Household				Nursing	80	19	99
Economics	1	20	21	Teaching and			
B.H.Ec. ....	....	....	....	Supervision	2	10	12
LAW				Public Health			
LL.B. ....	....	27	27	Nursing .....	....	20	20
MEDICINE							131
M.D.	1	49	50				
B.Sc. in Medicine ..	....	....	....	
NURSING							
B.Sc. ....	....	24	24				
PHARMACY							
B.Sc.	4	32	36				
PHYSICAL EDUCATION							
B.P.E.	1	11	12	Physiotherapy	14	....	14
B.Ed. in Physical							
Education	1	....	1				
			13				
PHYSIOTHERAPY ..	....	....	....	
GRADUATE STUDIES							
M.A.	7	8	15				
M.Sc.	17	23	40				
M.Ed.	9	8	17				
Ph.D.	2	8	10				
B.D. COMMITTEE							
B.D. ....	....	5	5				
			1015				

Report of Dean C. F. Bentley of the Faculty of Agriculture

A major change in the administration of the Faculty has occurred with Dean McCalla now devoting the whole of his time to the work of the Faculty of Graduate Studies. This is the second time that the Faculty of Agriculture has lost its Dean by promotion within the University, Dr. Robert Newton having been promoted to President in 1942. Dr. C. F. Bentley became Dean of the Faculty of Agriculture after a period of a year and a half as Associate Dean.

Several important changes affecting members of the Faculty's staff have occurred. In August, 1958, Dr. H. R. Thornton retired as head of the Department of Dairying after twenty-nine years of service to the University. He was succeeded by Dr. L. F. L. Clegg who came from the Dairy Research Institute at Reading, England. Dr. Thornton was retained on a part-time basis during the 1958-59 year to assist with the heavy teaching load in the department. Mr. R. H. Knowles spent several months at Michigan State College doing advanced work on landscape architecture and will be devoting a greater proportion of his time to his duties as Superintendent of Grounds. Dr. W. E. Smith obtained the Ph.D. degree from the University of Nebraska. His thesis work indicates that it may be possible to breed commercial tetraploid varieties of barley. Dr. John Unrau returned in September, 1958, after a sabbatical year devoted to research work at Cambridge University and to travel in Europe.

There have been some staff appointments. Dr. W. G. Evans, a toxicologist, joined the Department of Entomology as an assistant professor. He came from the Virginia Polytechnic Institute and has degrees from Cornell University. Dr. J. M. de Man, who obtained the Ph. D. degree from the University of Alberta in May, 1959, has joined the staff of the Department of Dairy Science as an assistant professor. His graduate study has been in that department and involved fundamental studies on the structure of butter. Drs. K. Lesins, J. Kuspira, and G. W. R. Walker, who have been attached to the Department of Plant Science for several years doing research supported by grants to that department have been classified as associate research professors. These men greatly strengthen the department's research program as well as its qualifications to offer advanced training for graduate students.

In the fall of 1958 Dr. A. G. McCalla spent six weeks in Japan on an assignment for the Canadian Wheat Board. He was a member of a two-man team sent to Japan to survey the Japanese market for cereal grains with a view to determining how Canada can win a larger market in that country.

Members of the staff have participated in many scientific meetings, of which several are especially noteworthy. The Tenth International Genetics Congress was held in Montreal and Messrs. Berg, Johnson, Kuspira, Lesins, Unrau, Walker, and Weijer attended. Drs. Clandinin and Robblee participated in the Eleventh World's Poultry Congress, in Mexico City. Dr. Hocking contributed to two entomological meetings at Guelph, Ontario, in November, 1958. Many staff members presented papers to other scientific groups and the Western Regional meetings of the National Soil Survey Committee and the National Soil Fertility Committee were held at the University for the first time.

Academic

In spite of rather small second and third year classes, undergraduate enrollment in the Faculty increased to 107. The increase was largely due to

a first year class of 41—the largest since 1948-49. There were 19 graduate students working towards M.Sc. degrees and 10 on Ph.D. programs. Nine students earned graduate degrees during the year. One of these was the first Ph.D. awarded in the Department of Dairy Science. Several students who have completed M.Sc. programs are proceeding to further graduate study at other institutions.

The program of courses offered in two of the Faculty's departments has been extensively revised. New courses are being offered in Agricultural Engineering and a program of specialization in that department is now available to undergraduate students. The emphasis is on industrial agriculture—application of the techniques and procedures of industry to the problems of agricultural production and the handling of agricultural products. The department is now authorized to offer graduate study in this field. Courses in the Department of Dairy Science have been designated in four categories—dairy science, dairy technology, dairy and food bacteriology, and dairy and food chemistry. Graduate work in the department may be undertaken in any of these areas.

Research

All departments in the Faculty have active programs of research and the number of projects are far too numerous to list here. However, a few highlights from each department may indicate the scope of the work.

The Department of Agricultural Engineering has designed and tested a cellular type granary which promises to be convenient and economical for farm use. A special feature is a metal bracket, designed in the department, which fastens together the panels used in the granary's construction. Work has been undertaken to find a flooring material suitable for unbedded piggeries. The goal is to find or develop a strong resistant flooring material of low heat capacity which, without bedding for insulation, will be comfortable for the animals.

A grant from a commercial company has sponsored a new project in the Department of Animal Science. The investigation being commenced is intended to determine some of the effects of pelleting on the nutritive value of feeds and feedstuffs. Pelleting may cause substantial changes in quality of feeds and it is desirable to know if these changes involve vitamins, amino acids, or other nutritive factors. The Poultry Division of the department has developed a broiler known as U. of A. White which, in provincial and national tests, has shown faster growth rates and more efficient feed conversion than any of the widely advertised broiler crosses. Sufficient U. of A. White breeding stock has been released to hatcherymen of Alberta to enable them to place about 1,500,000 U. of A. White chicks with broiler growers.

Research in the Department of Dairy Science has centered on the crystalline structure of butter. That work, supported by Extra-mural Research Projects funds from the Canada Department of Agriculture, has attracted international attention. The fundamental knowledge which has been obtained promises to enable improvement of the physical qualities of butter made by an improved butter making process. Papers reporting on this work have been published in three languages.

In spite of the disruption entailed in moving to excellent new quarters in the Agriculture and Biological Sciences Building, the Department of Entomology had a year of productive research. Studies of insect flight were

continued and these have received wide publicity in the popular press. A taxonomic study by one member of the department has been published as a 258 page memoir and a bibliography prepared by another member of the department lists some 2,600 references.

Kenhi, a soft white spring wheat variety resistant to leaf and stem rust and agronomically superior to varieties at present grown in Alberta's irrigated areas, has been developed by the Department of Plant Science. Advances in plant breeding techniques and knowledge, to which members of the department have made important contributions, enabled development of this variety after only eight years of work. Findings in the Horticulture Division have helped elucidate the mode of interaction of natural and artificial hormonal compounds and thus of genetic control in plants. Other work in the department has found some promise of spray control of wild oats.

In the Department of Soil Science fundamental work on the constituents of soil organic matter has been commenced. It has already been established that the organic matter in different soil horizons varies considerably in some Great Soil Groups occurring in Alberta and that there are further differences between some of those groups. Soil fertility investigations have revealed that fertilizer nitrogen applied to nitrogen deficient grain crops either increases yield per acre or results in a higher protein grain, depending upon the stage of crop growth when the fertilizer is applied.

Every department has received financial and other assistance from sources other than the University budget. This assistance, equivalent in total to about one quarter of the Faculty's budget, is gratefully acknowledged. This help and the encouragement which it gives research activities enables the departments to make considerably increased contributions to public benefit and scientific advancement. One of the gifts was a quarter section of land which is to be used for research in crop ecology.

Extension

Extension activities continue to take a good deal of time. They may be divided into several categories.

Feeders' Day as usual was the most important extension program, with attendance of approximately 2,000 being a new high. About 250 attended a fall Feeders' Day at Crossfield arranged by the Animal Science Department in co-operation with the Western Stock Growers' Association. Approximately the same number attended the Soil Science Field Day at Breton in July. Staff members gave talks at many short courses and field days sponsored by other organizations in many parts of the province. The Soil Science Department and the Alberta Soil Survey co-operated to put on a short course for personnel of the Alberta Departments of Municipal Affairs and Lands and Forests. Many contributions were made to radio and television programs, several of which were national or regional in coverage.

Extension publications have been numerous. Ten thousand copies of the Feeders' Day bulletin were printed and all but 400 were distributed by the end of the first month. Revised editions of three popular University of Alberta bulletins were printed and many staff members assisted with the preparation of the Alberta Farm Guide, a new publication prepared by federal, provincial, and university personnel. Departments have prepared or contributed to many leaflets and circulars intended to help farm people with practical problems which they encounter.

Service work done by the Faculty has become very heavy in some cases. The Divisions of Horticulture, Plant Pathology, and Crop Ecology of the Department of Plant Science and the Department of Entomology are devoting a substantial portion of their time to answering telephone enquiries or letters, and to the identifying of specimens submitted. New quarters have been occupied by the Agricultural Soil and Feed Testing Laboratory and an increasing number of farmers are utilizing this service.

In concluding this report I wish to express appreciation for the excellent co-operation from all members of the Faculty. I also wish to mention the fine relationship which has existed between Dr. A. G. McCalla and myself during the past year and a half, and to express my deep gratitude to him for the most considerate assistance and guidance which he has given me at all times.

Mr. J. A. Robertson has frequently taken classes for me and I wish to acknowledge his fine and cheerful work in that regard.

Report of Dean D. E. Smith of the Faculty of Arts and Science

1. Registration

The Registrar has presented detailed figures on registration, but I should like to comment on trends of this Faculty. There was an unprecedented increase in the number of students registered in the first year of all programs. The total registration also showed an unusually large increase. There is a steady growth of the Faculty of Arts and Science at the University of Alberta in Calgary; and students in the Evening Credit program continue to increase.

2. Degrees and Diplomas (see table XIX)

3. Progress during the Session

(a) *Administration:* The Council of the Faculty of Arts and Science established an Executive Committee during this session. The Committee consists of four members and two alternates; it will meet monthly during the session, or oftener as the occasion arises. The intention of Council is that the Committee will give careful scrutiny to routine business and present its recommendations in a report, which will be circulated to members before the meetings of Council. Contentious matters will be referred to Council for debate; and items in the report can be debated at the request of any member of Council. Authority to deal with petitions and report to Council was delegated to the Committees. By these methods, the Executive Committee will relieve Council of the pressures of routine business, and save time for debate on policies and contentious issues.

(b) *New Degree Programs:* New Honours programs in Sociology with an approved minor subject, and in Sociology and Psychology, were established during this session. An Honours program leading to the B.A. Geography, and a second program with different emphasis, leading to the B.Sc. with Honours in Geography, were also approved. An inter-disciplinary program in Slavonic and Soviet Studies was established: students will register with the Department of History, Modern Languages or Political Economy, and will concentrate in one subject in the appropriate Department. By choosing options in consultation with an inter-Departmental Committee, the student can obtain training in Slavonic and Soviet Studies, and this fact will be added to his record.

The Honours program in Conservation Biology has been discontinued; students can now obtain Honours programs in Botany or in Zoology which will give similar training.

(c) *Calendar Changes*: There were a number of changes to clarify the description of courses or to modify their content. In addition, a number of new courses were approved:

Biochemistry—Chemistry of the Erythrocyte. *Botany*—Mycology, Special Problems. *Chemistry*—Physical Organic Chemistry, Natural Products, Quantum and Statistical Mechanics, Solution Kinetics, Departmental Research Seminar, Advanced Research Seminar. *Classics*—Tibullus, Propertius, Ovid Amores. *English*—English Drama from the beginnings to 1700, Studies in American Literature. *Geography*—Weather and Climate, Western Canada, U.S.S.R., Geography in Planning, Air Photo Interpretation, Reading and Seminar Course, Mediterranean Lands, Scandinavia, Research in Regional Geography, Research in Physical Geography. *Geology*—Geochemistry, Advanced Mineralogy, Regional Structural Geology, Pleistocene Geology, Field Work in Geomorphology and Glacial Geology, Rock Analysis. *History* — Europe since 1815, The Germanic Peoples, Britain—A Survey of the History of Britain and the Commonwealth, The Far East, Latin America, Special Subject—(1. Chaucer's England, 2. The Reformation, 3. France or New France under the Old Regime, 4. A period in the history of the American West, 5. The transformation of Russia since 1861, 6. The political history of the Canadian West, 7. Other approved special subjects), Medieval Europe, The Age of Louis XIV, The Age of Enlightenment, The French Revolution, Europe 1815-70, Europe since 1870, The West Slavic Peoples since 1800, Russia since 1861, Slavonic and Soviet Studies (an interdepartmental seminar), Medieval Britain, England under the Tudors and Stuarts, Britain in the 19th Century, Canada during the French Regime, Canada 1763-1867, The Canadian West, The Westward Expansion of the United States, Latin America, The Far East, Conference Course. *Household Economics*—Foods and Nutrition. *Mathematics*—Introduction to Behavioural Statistics, Calculus, Analytic Geometry and Linear Algebra, Elementary Mathematics from an Advanced Viewpoint, Introduction to Modern Algebra, Advanced Calculus, Numerical Analysis, Probability Theory and Applications, Selected Topics in Mathematical Statistics. *Modern Languages* — Semantics, Lexicography and Linguistic Geography, Stylistics as applied to French Literature, Chansons de geste and Roman courtois, The Spirit of Humanism in France and England at the beginning of the Renaissance, Rabelais, Ronsard, Montaigne, The French Moralists, Moliere, The 18th Century Novel, Marivaux, Voltaire, Rousseau, Stendhal, Literature and the Plastic Arts from the time of Delacroix and Baudelaire, Franco-German Literary Relations during the Nineteenth Century, Maupassant, The Naturalistic Novel, The Late Nineteenth Century Theatre, Valery, Proust, Spanish Literature of the Golden Age, Spanish Drama and Lyric Poetry from 1850, Practical Study of the Spanish Language, History of Spanish Literature, The Poem of the Cid, Early Spanish Prose, Contemporary Spanish Poetry, Modern Spanish and Latin American Novelists, Special Reading Course in German, Survey of German Literature, Anglo-German Literary Relations from the Sixteenth to the Nineteenth Century, Conference Course in German, Second Year Russian (Science Section), Russian Literature of the late Nineteenth and early Twentieth Centuries, Early Eastern Slavonic Literature, Conference Course

in Russian, Soviet Russian Literature, Beginners' Ukrainian, Second Year Ukrainian Authors and Grammar. *Psychology*—General and Industrial Psychology, Behavioural Statistics. *Physics*—Advanced Problems in Geophysical Exploration. *Political Economy* — Western European Economic Development. The Soviet Economy, Business and Government, Seminar in Slavonic and Soviet Studies (an interdepartmental seminar). *Political Science*—International Affairs in the Twentieth Century, Federal and Local Government, Seminar in Soviet Politics, Seminar in Slavonic and Soviet Studies (interdepartmental), Government of Canada. *Sociology*—Cultural Anthropology, Social Science Research Methods, Population and Human Ecology, Social Class in Modern Society, Conference Course in Sociology for Honours and Graduate Students, Seminar in industrial Sociology, Seminar in Social Psychology. *Zoology*—Vertebrate Physiology, Comparative Animal Physiology, Limnology, Comparative Animal Histology and Basic Microtechnique. Some twenty courses were deleted.

(d) *Leaves of Absence*:... Leave of absence was granted to Dr. W. F. Allen, of the Department of Chemistry in Calgary, to do research under the direction of Dr. Gunning on this Campus. Professor H. G. Glyde, of the Division of Painting, Department of Fine Arts, was given leave of absence to study in London and in Italy. The leave of Dr. I. Guttman, of the Department of Mathematics, was extended for one year; and Dr. G. K. Horton of that Department was given leave to do research in Birmingham. Leave was also granted to Professor W. D. Gainer and Professor W. MacKenzie, of the Department of Political Economy; Professor Gainer will be a visiting Professor at the University of Toronto, and Professor MacKenzie has continued his studies at Oxford University.

(e) *Staff Changes*: The Faculty was saddened by the deaths of several members of its staff during this session. Dr. E. Mueller of the German Division, Department of Modern Languages, and Dr. E. H. Gowan of the Department of Physics, died during the summer. Dr. S. M. Strong of the Sociology Division died after a few months of his first year on our staff. Dr. R. B. Miller, Head of the Department of Zoology, died during the winter.

The Faculty also lost the services of Dr. J. E. Moore, of the Department of Zoology, who was placed on sick leave on commitment to hospital.

Dr. R. W. Collins, of the Department of History, retired in September; he was replaced as Head of the Department by Professor L. G. Thomas of that Department. Professor J. M. Robson of the Department of English, Dr. S. S. Gupta of the Department of Mathematics, and Dr. V. E. Graham of the Department of Modern Languages in Calgary, resigned during the year.

Mr. J. G. Packer joined the Department of Botany. The Department of Chemistry experienced a great increase with the appointment of Dr. F. C. Adam, Dr. W. A. Ayer, Dr. D. Darwish, Dr. G. R. Freeman and Dr. Paul Kebarle; Dr. D. A. Armstrong was also appointed to the University of Alberta in Calgary. Dr. J. P. Cutts, Mr. R. D. McMaster and Mr. E. J. Rose joined the English Department. The Music Division of the Department of Fine Arts added Mr. T. Rolston to its strength. Dr. F. A. Campbell and Dr. H. Baadsgaard joined the Department of Geology. Dr. P. Brock and Dr. R. H. McNeal were added to the Department of History. The Department of Mathematics was substantially increased by the appointment of Dr. T. V. Narayana, Dr. R. O. A. Robinson, Mr. J. McNamee, Dr. W. J. Bruce and Mr. W. Israel; and Mr. A. S. B.

Holland was appointed to the Calgary staff. The Department of Modern Languages appointed Mr. R. G. Motut, Mr. B. Plaskacz and Mr. H. Chanal; and Mlle. G. S. E. Colleville in Calgary. Dr. S. M. Strong and Dr. C. Uhl joined the Department of Philosophy and Psychology. The Department of Physics also enjoyed a large increase through the appointment of Dr. F. D. Manchester, Dr. J. T. Sample, Dr. F. Terentiuk (Calgary), Dr. K. Vozoff and Dr. F. L. Weichman. In the Department of Political Economy, Dr. G. K. Goundrey and Mr. W. Dawson were appointed. In the Department of Zoology, Dr. C. P. Hickman, Dr. V. Lewin and Mr. B. A. Boag joined the staff.

4. Departmental Reports

Botany

The Department has been established in new quarters on the fourth floor of the new wing of the Biological Science Building. New equipment was obtained and installed for all areas of the Department's activities. The new facilities were on display at the official opening of the new building during Jubilee week, October 26 to November 1.

Gifts of botanical materials were received during the year, outstanding among which are a five-foot-wide section of a Douglas Fir tree from British Columbia showing six hundred growth rings, and a large collection of pressed seaweeds from California.

Although the Department is much better equipped than in previous years, greatly increased enrolment, especially in elementary classes, placed heavy strain on space, facilities and staff available for teaching. This, to some extent, increased the difficulty of the reorganization of these elementary courses which is in progress.

Despite the disturbance occasioned by removal to new quarters, the research program of the Department continued to increase in volume and output. Five papers were published by the Department members during the period reviewed. National Research Council grants in aid of research were awarded to Drs. Brodie, Cormack and Keeping (Mrs. E. S.) Grants from the General Research Fund of the University were awarded to Drs. Brodie and Whyte and to Mr. J. Packer.

Dr. E. Silver Keeping (Honorary Research Associate) completed a project dealing with the ecology of the fungus *Endogone* and its relation with rodents and with roots. She continued her study of the morphology and behavior of fungal nuclei in collaboration with the Department of Plant Science. Dr. Brodie continued research dealing with the genetics of sexuality in *Bird's Nest Fungi* and began the writing of a book dealing with these researches. Dr. Cormack made progress with an investigation of the action of certain chemicals, especially disodium versenate, upon the development of seedling roots. Dr. Lorene Kennedy investigated wood-rotting fungi (the *Dacrymycetaceae*) with the objective of revising other genera and she completed preparation of a monograph of the genus *Dacrymyces*, a work now in press.

Certain projects consisting largely of field work were carried on by Department members. Dr. Whyte experimented during the summer with the effect of cold treatment on early fruiting of tomatoes.

The introduction of plants of potential horticultural value in Alberta continued as an important part of the Department's activity. Under Dr. Whyte's direction seed exchange was carried on with sixty-two Botanical Gardens. In 1958-59, 2200 packets of seeds and plant material were brought

in for testing and 590 packets sent out on exchange. The experimental plots contained over 2400 plants under observation, representing some 68 genera. Most of this material came from climates approximating that of Edmonton or those having more severe winters. Building expansion on the Edmonton campus necessitates moving this experimental plant material temporarily. It is hoped that a permanent Botanical Garden and Arboretum may eventually be available for this work.

Study of the taxonomy of the flowering plants of Alberta was begun by Mr. John Packer who spent most of the summer in the south-eastern Rockies collecting for the Herbarium and collecting material for cytotaxonomic work. This resulted in the addition of about 500 sheets to the Herbarium and yielded material contributing to studies of cytotaxonomic problems.

Among professional activities in which staff members participated may be mentioned: Meetings of the Royal Society of Canada in Edmonton (June) at which papers were presented by Drs. Kennedy, Cormack and Brodie; meetings of the Western Canadian Society of Horticulture (Winnipeg, February) at which Dr. Whyte presented a short paper; Annual Conference on Plant Physiology (Saskatoon, October) to which Dr. Cormack contributed papers; Forest Ranger School at Kananaskis where Dr. Cormack lectured.

Dr. Brodie presented papers to the Philosophical Society and the Science Association on the campus during the second term and contributed six radio talks to University Radio programs. He served also as Convenor of the Science Series of Radio Broadcasts.

A number of exhibits were provided by the Department, including exhibits at Christmas and for Varsity Guest Weekend. In addition, special exhibits were arranged in hall show cases in the new wing of the Biological Science Building, including fossil plants and other plants of special interest to students and the general public, such as Orchids, lichens, fungi, etc.

Mr. Prince on the Calgary campus continued his work on the lichens of Alberta. Plans for the botanical laboratories which will be part of the new construction at Calgary were developed.

Chemistry

During the present report year substantial progress has been made; the physical facilities of our Department have been improved; there have been expansions in our staff, in our graduate student body and in the number of students beginning the Honors program in Chemistry.

Research activity has taken a dramatic leap forward. A large number of new fundamental investigations have been initiated by the staff working with their graduate students, in the various fields of organic, inorganic, physical and analytical chemistry. The Department is now finding it easier to attract creative scientists to its staff and to interest promising graduate students in taking advanced degrees here.

At the present time there are forty graduate students working for advanced degrees in the Department. Of these twenty-seven are proceeding on a doctoral program, ten are M.Sc. students and three are provisional graduate students.

The first Ph.D. degree in Chemistry from this University will be granted at the Spring Convocation. Two students are now in the third stage of their doctoral programs and should complete their work in early 1960. About half

of the remaining doctoral students are preparing for their comprehensive examination which terminates the second stage of their program.

The Department now has its mass spectrometry laboratory in operation. Research on the detection of free radicals by mass spectrometric methods is proceeding under Dr. Kebarle's direction.

Through an NRC grant of \$37,500, the Department is purchasing a Metropolitan Vickers MS-2 mass spectrometer for Dr. Gunning's research program on isotope separation by photochemical methods. The new mass spectrometer will also be available for other members of the Department.

The Department is rapidly developing a first-class glass blowing shop for the fabrication of research and undergraduate equipment in pyrex and quartz. The Spectrophotometry laboratory is well equipped now for studies in both ultraviolet and infrared spectrophotometry. A Cary, Model 14, recording ultraviolet spectrophotometer is used to determine absorption spectra in the ultraviolet and visible regions. For the infrared region, two instruments are in operation: The Perkin-Elmer, Model 21, recording spectrophotometer, and a grating instrument for high-resolution studies.

The Department has developed considerably its research facilities in Gas-liquid Partition Chromatography: an important new method for analysis. Dr. Walter H. Harris has an active research program in this field. The Department has purchased a Burrell Kromotog instrument for his work. In addition, a number of other instruments for this type of analysis are being constructed for research in photochemistry, mass spectrometry and radiation chemistry.

Since a great deal of research in the Department is conducted in high-vacuum systems, a great deal of liquid nitrogen is used as a refrigerant, for the condensation of gaseous compounds. A Phillips liquid nitrogen generator has been purchased for the Department, which will make available approximately 100 liters of liquid nitrogen per day.

Both the undergraduates and graduate laboratories consume a great deal of crushed ice. A new crushed ice machine has been purchased which manufactures and stores 500 pounds of ice per day.

Through a grant from the Trans Mountain Oil Pipe Line Company, a High Energy Radiation Laboratory has been set up under the direction of Dr. Gordon R. Freeman of our staff. Polonium alpha sources are being used to study the kinetics of decomposition of compounds initiated by alpha particles.

At Calgary, Dr. Armstrong is developing research on the radiation chemistry of gases. Dr. Adam is developing a laboratory for studies in electron-spin resonance of free radicals.

The following research is in progress in Edmonton:

Willard F. Allen: An Investigation of the Metastable Mercury Atom Reactions.

William A. Ayer: Elucidation of the Structure of Lycopodium Alkaloids and Synthesis of Diterpene.

Robert K. Brown: (a) Chemistry of Indoles, (b) Preparation of Sugar Mercaptans, (c) Aromatic Reactions, (d) Monomeric and Polymeric Ester-amides.

Robert J. Crawford: The Reduction of Alkynes and the Mechanism of Elimination Reactions.

David Darwish: The Rearrangement of Esters During Ionic Cleavage.

Stuart G. Davis: Isotope Effects on Reaction Rates.

H. Brian Dunford: Active Nitrogen Reactions.

Gordon R. Freeman: Radiolysis of Cycloparaffins.

Harry E. Gunning: (a) The Photochemistry of Isotope Separation, (b) Endothermic Photochemical Synthesis, (c) The Decomposition of Free Radicals.

Walter E. Harris: (a) Analytical Studies in Gas-Liquid Chromatography.

Paul Kebarle: Mass Spectrometric Determination of Free Radical Reactions.

Robert N. O'Brien: Solution Chemistry around the Working Electrode.

R. B. Sandin: (a) Study of Substituted Ethylenes, (b) Trifluoroacetic Acid to Generate Carbonium Ions.

William J. Wallace: (a) The Study of Complex Ions, (b) The Preparation of Anhydrous Metal Halides.

The following research is in progress at Calgary:

Frank Adam: Design and Construction of an Electron-Spin Resonance Spectrometer for the Study of Free Radicals.

David A. Armstrong: The Radiation-Induced Addition of Halogen Halides to Olefins.

Robert K. Brown presented a paper on the "Reactivity of Cellulose" at the Fourth Regional Conference of the C.I.C. at Winnipeg, September 4-6, 1958. Robert J. Crawford read two papers; "The Mechanism of Chromium (II) Reduction of Alkynes" was presented at the Symposium on Organic Chemistry, C.I.C. Ottawa, December 1958; and "The Ultraviolet Spectra of Some Methyl-substituted Anthraquinones," will be given at the National Meeting of the C.I.C. in Halifax, May, 1959. H. Brian Dunford's paper on "The Reaction of Active Nitrogen with Hydrogen Bromide" was presented at the National Meeting of the C.I.C., Halifax, May, 1959.

Harry E. Gunning, as Tour Speaker for the C.I.C., gave lectures on "The Photochemical Separation of Mercury Isotopes," at Calgary on October 20, at Ralston on October 21, at Regina on October 22, and at Saskatoon on October 24, 1958. He presented a paper on "The Reactions of Photoexcited Mercury Isotopes," before the Science Association on November 27, 1958, and a paper titled, "The Folk-tale Motif, a Tracer Technique in the Stream of Culture," to the Philosophical Society on February 11, 1958.

Another paper on "The Reactions of $\text{Hg}^{202}(\text{}^3\text{P}_1)$ Atoms with Hydrogen Chloride," was presented by Dr. Gunning at Western Regional Conference of the C.I.C. Winnipeg, September, 1958. He read a paper on "The Reactions of $\text{Hg}^{202}(\text{}^3\text{P}_1)$ Atoms, Photoexcited in Natural Mercury Vapor, with Hydrogen Chloride," at the 135th meeting of the American Chemical Society, Boston, April 1959. He presented two papers at the National Meeting of the C.I.C., Halifax, May, 1958: "Photochemical Separation of Mercury Isotopes, VI: The Reactions of $\text{Hg}^{198}(\text{}^3\text{P}_1)$ Atoms with Hydrogen Chloride," and "Photochemical Separation of Mercury Isotopes VII: The Reaction of Vinyl Chloride with $\text{Hg}^{202}(\text{}^3\text{P}_1)$ Atoms in Natural Mercury Vapor."

Walter H. Harris presented three papers at the Second Alberta Gas Chromatography Symposium, Edmonton, February, 1959: "Gas-Liquid Chromatography," "The Prediction of Retention Volumes in Programmed-Temperature Gas Chromatography," and "Selective Reactivity in Gas-Liquid Chromatography."

Paul Kebarle presented at the Seventh Annual Meeting on Mass Spectrometry, Los Angeles, May, 1959, a paper on "The Ionization Potentials of Substituted Benzene Radicals."

Robert J. O'Brien read a paper on "Interference Methods in Electrodeposition" at a Symposium on Charge-Transfer Processes sponsored by the C.I.C., Ottawa, September, 1958.

Classics

Summer Session courses were given by Miss Marie Spence, an Honours Graduate in Classics of this University who is now on the staff of McGill University, and by Dr. E. C. May of the staff of this Department.

The regular courses of the Department were given in the winter session by the members of the Department. In addition, two M.A. students have been registered in Graduate courses. One of these receives her degree at the Spring Convocation.

Dr. W. H. Johns, formerly Professor in this Department, has been selected as President of the University of Alberta.

English

Public addresses were given by the following members of the Department:

J. T. Jones: Kiwanis Club, Lethbridge, "Lethbridge and the Junior College," January 27, 1959. The Mathesis Club, Lethbridge, "Bernard Shaw," January 27, 1959. St. David's Society, Edmonton, "Pauline Johnson," February 28, 1959.

H. Kreisel: University Women's Fiction Club, "The Modern Novel," October, 1958.

R. D. McMaster: Dickens Fellowship, Edmonton, "Dickens' Obsession with Fairy-tale Literature," February 7, 1959.

E. W. Mandel: Philosophical Society, "Poetry and Madness," November 12, 1958.

Messrs. Godfrey and Kreisel arranged the series, "Men and Letters," for CKUA, and talks were given in this series by Professors Baldwin, Cutts, Godfrey, Kreisel, McMaster and Sowton. Talks and book reviews were given on the CBC by Professor Godfrey and Professor Kreisel. R. G. Baldwin and H. Kreisel took part in a panel discussion on "Errors in Freshman Composition" at an A.T.A. Convention, Victoria Composite High School, February, 1959.

A. T. Elder was Chairman of the A.T.S.U.A. from May, 1958 to May, 1959, a post whose excessive demands of time and energy he met without relinquishing his departmental activities. A. T. Elder judged the annual Alberta Poetry Contest for the Edmonton branch of the Canadian Authors Association.

H. Kreisel and J. T. Jones again acted as adjudicators for the Canada Council in awarding grants to writers. H. Kreisel was Chairman of the Philosophical Society, and E. W. Mandel was Secretary of the Humanities Association of Canada (Edmonton Branch).

R. G. Baldwin will judge literary activities at the Y.M.C.A. "Children's Fair," May, 1959.

Fine Arts

The three Divisions of the Fine Arts Departments moved during this year. The Drama Division took up temporary quarters in the Faculty of Education

Building and the Music Division, along with Radio Service, moved to Rooms 311, 315, 319 and 322 in the Arts Building. The Painting Division also took over rooms in this building formerly occupied by the Geology Department on the third floor.

Painting Division

A Total of 210 students were enrolled in the 19 art courses which were offered. These courses include those special students who comply with registration requirements and are carefully selected. Their work has shown gratifying development.

Evening Credit courses in art history and appreciation were given at Vegreville by Mrs. Yates, and at Holden by Mr. Taylor, with a total enrollment of 72.

The approximate enrollment in non-credit art courses through the Department of Extension evening classes division, was 209. Mr. D. Barry, assisted by Miss Joan Byrne, one of our Diploma in Art graduates, conducted six evening courses. These proved so popular that another series of art courses has been commenced for the spring season, extending through April, May and June.

The pottery classes continued under the very capable hands of Mrs. S. Laubenthal, with an enrollment of 21. Nearly this many applicants again were turned away from this class for lack of accommodation.

The 1957-58 Community Art Program will be seen in the report from the Department of Extension. There was an enrollment of 487.

Exhibitions were held in the Rutherford Gallery, on the second floor of the Arts Building, the first floor of the Education Building, and along the corridors of the new Art quarters on the third floor of the Arts Building.

These exhibitions included:

- 8 travelling exhibitions, national and international, sponsored by the National Gallery of Canada
- 1 travelling Western Circuit exhibition
- 2 students' exhibitions, one of which went on tour to five city schools
- 1 staff exhibition
- 1 one-man show by N. Yates
- 1 one-man show by J. B. Taylor
- 1 one-man show by Gordon Sinclair
- 1 student exhibition for Guest Weekend, in 132 Arts Building

Concerts sponsored jointly with the Edmonton Women's Musical Club:

Doreen Stanton, pianist; Rolande Garnier, Winnipeg, soprano, and Edward Lincoln, accompanist.

Professor Glyde received a Canada Council Senior Travelling Fellowship for study in London and Rome. He exhibited again in the Royal Canadian Academy. During his absence, Mr. D. Barry and Mr. M. W. MacDonald were appointed on temporary staff, and have done excellent work.

Mr. Taylor exhibited with the Royal Canadian Academy, and the Canadian Society of Painters in Water Color. Mr. Yates exhibited in the National Council of Jewish Women's Annual Exhibition, Ottawa.

Mr. Taylor gave lecture-demonstrations to art clubs in ten schools, and lectures to two outside clubs.

Mr. Yates was in charge of planning and executing, with the senior art students, the decoration scheme of the Homecoming Ball for Guest Weekend. He lectured on Theatre Design in Red Deer to the Annual Drama Director's Conference. He also designed the costumes and stage settings for the very successful production of "The Lark", an Alumni Association production.

Both Mr. Yates and Mr. Taylor lent considerable assistance to the City Teachers' Art Workshop formed this year by Mr. M. W. MacDonald. This extended over a period of six weeks. Staff members continue to co-operate with the Junior Hospital League in lending their paintings for their Art Rental project, which is proving very successful.

Music Division

The total enrollment was 62 students.

The new Bachelor of Music program begun this year saw five students enrolled. Publicity has been given throughout the Province to this course and there is much interest in it.

All students in the Music Division took part in the Annual Christmas Concert in December, presenting a group of unaccompanied carols and joining with the University Singers in Bach's Christmas Sequence.

Assistant Professor Rolston, who joined the Music staff in September, has made a notable contribution to the musical life of Edmonton through his fine work as concert master of the Edmonton Symphony Orchestra.

Three concerts were given by the Mixed Chorus in Convocation Hall, in January, and these were followed by out-of-town concerts in Calgary, Leduc, Lacombe and Lloydminster. Carol singing in the University Hospitals, Varsity Guest Weekend and a CBC concert (for which they received praise from the Winnipeg program convener), rounded out the first part of the season.

On April 29th, the Mixed Chorus plus a string orchestra of professionals and students, began a tour of southern Alberta, beginning with Tofield, Ponoka, Champion, Nanton, Claresholm, Pincher Creek, Blairmore, Lethbridge, Cardston, Taber and Vauxhall. The chorus and orchestra were the only groups featured in the Cultural Activities Branch 1959 'Maytime in Alberta'.

The activities of the University Symphony began at the Annual Christmas Concert, followed by two formal concerts in Convocation Hall in February, and concluding with a joint Chorus and Orchestral Concert at Varsity Guest weekend.

Assistant Professor Greene is to be congratulated for the excellent program in extension music this year. The report of this activity will be seen in the Department of Extension report.

Drama Division and Studio Theatre

The total enrolment in this Division was 63. In addition, the drama section of Ed. 280S was given by Mr. Bueckert with an enrolment of 12.

Student Productions of the Studio Theatre were:

Lilliom by Molnar, a student production with members of the drama classes taking part, directed by Mr. Peacock; and an evening of four one-act plays presented in February by the classes in directing and acting.

There were two Adult Productions:

The Lark by Jean Anouilh, presented by the Alumni Players, was a major production with students and alumni taking part. This was entered in the Provincial Drama Festival as well. It was directed by Mr. Peacock.

Candida by George Bernard Shaw, the second major production, was directed by Mr. Bueckert.

Two two-day provincial theatre workshops held in Red Deer, were organized by the Cultural Activities Branch, with Mr. Peacock and Mr. Bueckert handling the stagecraft and directing sections.

Mr. Peacock was reappointed a Governor of the Dominion Drama Festival for a three-year term, and was appointed a University editor of *Players Magazine* for a two-year term.

Geography

Student enrolment in Geography continued to increase. On the Edmonton campus 460 students were registered in Geography courses during the 1958-59 academic year (including 49 in the E.C.P.) 44 students were registered in Geography 1 at the Calgary campus during 1958-59.

During the fall of 1959 the Department moved into new quarters on the third floor of the Arts Building, into space vacated by the Department of Botany and Department of Geology. This was the first time that the Department has been housed together and it has made a great improvement in our facilities. Students as well as staff have commented most favourably on the new quarters.

Dr. Wonders received a \$1500 research grant from the Canadian Social Science Research Council to cover the expenses involved in his study of settlement in the Mackenzie Valley area. To this end, he spent nine weeks on library research in Ottawa over the summer, visited Saskatchewan Government officials in Regina in the fall, and visited Fort Simpson, N.W.T. over an emergency winter road in the late winter. Dr. Wonders also has been preparing a child's atlas for Western Canada.

Dr. R. Common continued his research on the regional geography of Central Macedonia, and during the summer made a field study of the glacial geology and geomorphology of Southeastern Alberta for the Research Council of Alberta.

Dr. A. H. Laycock's research on "Water Surplus and Deficiency Patterns in the Prairies" continues to be supported financially by the Prairie Provinces Water Board, with additional assistance from the U. of A. Research Fund.

R. Common spoke on "Geography as a High School Subject," at the Edmonton and Jasper Place Teachers Convention, Edmonton, February 1959. He also read a paper, "Some Aspects of the Geomorphology of South-eastern Alberta," at the Canadian Association of Geographers meeting, Saskatoon, May, 1959.

A. H. Laycock presented a paper, "Soil Surveying in Mountain Watersheds: The Problem and One Solution," to the Association of American Geographers Convention, Santa Monica, California, August, 1958. He also spoke on "The Water Resources of Alberta," at the Alberta Resources Conference, Edmonton, January, 1959, and read a paper, "Local Water Supplies in the Prairies," at the Canadian Association of Geographers' meeting, Saskatoon, May, 1959.

Dr. Wonders gave three radio addresses: "Settlement in the Mackenzie Valley Area," on CBC Prairie Area, 7:30 p.m., November 18, 1958; "Sibelius," in the series *My Saturday Evening Concert*, CKUA, Edmonton, 8-9 p.m., December 6, 1958; and "Book Reviews," (E. J. Hanson: *Dynamic Decade*; K. Liddell: *This is British Columbia*), CKUA, Edmonton, 7:45 p.m., December 18, 1958.

R. Common lectured to R.U.S. during the year. A. H. Laycock offered a non-credit course on "The Land and Wealth of Alberta," for the Department of Extension.

Dr. Wonders was the official delegate of the Canadian Association of Geographers at the annual meeting of the Association of American Geographers in Santa Monica, California, August, 1958. He also was a registered delegate at the annual Prospectors and Developers Convention in Edmonton, February, 1959, and at the National Northern Development Conference, Edmonton, September, 1958. He participated in the air tour to the Yukon and Alaska following the latter, through the provision of a special grant by the University.

Dr. Laycock attended the Air Photo Interpretation Course at the U. of A., February 9 to 14, 1959.

Dr. Wonders participated in "Geography in the School," a discussion with Edmonton Social Studies teachers, at Victoria Composite High School, Edmonton, January 26, 1959. He also spoke on "The Full Development of the North," as a panel member at the annual meeting of the Junior Hospital League, Edmonton, February 10, 1959. He spoke on "The Fort Simpson Winter Road," to the West Side Rotary, Edmonton, April 6, 1959.

Geology

The Department of Geology moved into new quarters in the Agriculture and Biological Science Building in September, 1958; the new facilities are believed to constitute the best physical plant available to any geological department in Canada.

Despite the difficulties associated with transplanting objects as large as dinosaurs and as small as microfossils, the department has been able to carry on its program of teaching and research. Eighteen M.Sc. and two Ph.D. students are presently registered in the graduate school in Geology, together with 135 undergraduate and special students in Geology pattern and Honors courses. Our graduate students hold International Nickel teaching and research fellowships, an Imperial Oil graduate fellowship, the Shell Oil graduate fellowship, and the Pan American graduate fellowship; representative of the substantial contribution that the mining and petroleum industries make to the support of the University's graduate program.

Twelve papers have been published in geological journals by members of the Department during the 1958-59 academic year, a reflection of the Department's contributions to research. These papers run a geological gamut in time from Precambrian to Pleistocene, in subject from paleontology to permafrost. In association with the Department of Physics the University now has facilities for complete potassium-argon isotope analysis of rocks and minerals over an age range from 20 to more than 2000 million years, or 99% of geological time. The remaining 1% on the time scale is covered through a co-operative program with the University of Saskatchewan, where facilities for radio-carbon dating are available.

History

The enrolment in the sixteen courses offered by the Department in 1958-59 was approximately 775. Three courses were offered in the Evening Division and six courses at the Summer Session of 1958.

Dr. R. W. Collins retired to become Professor Emeritus of History, and was succeeded as Head of the Department by Dr. L. G. Thomas. Dr. F. D.

Blackley, in addition to his duties in the Department, continues to serve as Secretary of the Faculty of Arts and Science.

The course offerings of the Department have been revised and extended to provide for a revised and developed honors and graduate program.

Four members of the Department received Canada Council grants in support of research—Dr. Eccles to continue work on the two volumes commissioned last year in the Canadian Universities Series, and the Frontier History Series; Dr. Farnham to continue his research for a study of Grenville Dodge; Dr. Brock for travel in Europe in connection with his studies in Polish history and Dr. Self, at Calgary, to attend the Institute of Historical Studies conducted at Kingston, Ontario. Dr. McNeal is preparing a bibliography of the works of Stalin.

Members of the Department participated in the meetings of the Learned Societies in Edmonton in June, 1958. Dr. Thomas was elected for a second term to the Council of the Canadian Historical Association. Dr. McNeal and Dr. Thomas attended the meetings of the American Historical Association in Washington, D.C., in December, 1958, and Dr. Eccles and Dr. Farnham the meetings of the Mississippi Valley Historical Association in Denver in April, 1959. Dr. McNeal attended the first Far Western Slavic Conference at San Francisco in April, 1959, to read a paper "Stalin as a Nationalist." Dr. Farnham accepted an invitation to attend a seminar on the relations of Canada and the United States arranged by the Canadian Studies Program at the University of Rochester, New York, in October, 1958.

Mathematics

The Departmental staff increased to twenty-one full-time and four part-time instructors, including two full-time instructors in Calgary.

Miss Z. M. Hyduk, a Lecturer in the Department, was awarded the M.Sc. degree for a thesis on "Asymptotic Expansions (the method of Darboux)" under the direction of Dr. Wyman. Five graduate students are registered with the Department, three in statistics and two in applied mathematics.

During the summer of 1958, Dr. L. Moser and Dr. S. S. Gupta attended the Summer Research Institute in Mathematics at Queen's University, Kingston. Dr. Gupta worked on statistical problems connected with ranking procedures and Dr. Moser on various problems in number theory and oriented graphs.

Dr. A. P. Guinand, Dr. H. F. J. Lowig and Dr. I. N. Baker attended the International Mathematical Congress in Edinburgh, Scotland. Dr. Baker and Dr. Lowig read papers at the Congress.

Dr. Wyman presented a paper to the meeting of the Royal Society of Canada in June 1958. A session of Section III, devoted to mathematical papers, was held in the Department. He also gave a paper on "The Asymptotic Behavior of the Laurent Coefficients" at a symposium on Asymptotic Expansions held in California. On the way he stopped off at Vancouver to give a talk to the mathematics department there.

Dr. Moser attended a seminar in August 1958 at the AVCO Manufacturing Company, Wilmington, Mass., and spoke on some problems of combinatorial analysis. He also gave papers at the American Mathematical Society meetings in Philadelphia, and at a seminar in the Bell Telephone Laboratories, in January, 1959.

Professor Keeping attended the meetings of the American Mathematical Society and the Mathematical Association of America (Pacific Northwest

Division) at Corvallis, Oregon. He also spoke to the Royal Astronomical Society of Canada in Toronto.

Dr. T. V. Narayana attended the Institute of Mathematical Statistics at Pittsburgh in March 1959 and gave a paper on "Sufficient partitions for a class of coin-tossing games."

The mathematics colloquium met regularly during the session, under the guidance of Professor Pounder. A special student seminar was arranged by some members of the Department, including Drs. Baker, Cree and Whitney. For the first time for many years a team was entered for the Putnam Competition.

Dr. Robert E. Gaskell, supervisor of mathematical services for the Boeing Airplane Company in Seattle, came to the campus in January as a Visiting Lecturer sponsored by the Mathematical Association of America. He addressed groups of students and staff as well as the mathematics colloquium, and also spoke to a public meeting of engineers and others interested in the industrial applications of mathematics.

Dr. V. Hlavaty, Professor of Mathematics at the University of Indiana, visited the campus in March and spoke to the Science Association on "The Structure of Space" and to a joint meeting of the mathematics and physics colloquia.

Radio talks over CKUA were given by Professor Keeping on "Weighing the Earth" and on "Opportunities in Modern Mathematics." Professor Moser gave a radio talk on "Triumphs and Pitfalls of Modern Mathematics."

Arrangements were completed for holding a Summer Institute for Modern Mathematics at the time of the University of Alberta Summer School in 1959. Professor R. V. Andree and Professor M. Wyman were appointed as instructors and Professor Keeping as director. About fifty bursaries, valued at \$200 or \$300, were made available by the Canadian Mathematical Congress, the Alberta Department of Education and the University of Alberta, in order to assist high school teachers to attend.

Modern Languages

In June 1958, the Department lost a senior member through the untimely death of Dr. Erich Mueller, Professor of German. An emergency appointment as Sessional Lecturer was made in order to meet a 40% increase in French 2 registrations. In Russian, with the addition of a course for science students, the number of beginning students increased fourfold. Registrations rose again in Scientific German.

Five students were actively engaged in graduate work. Anticipating an increase in the number of graduate students, the Department decided to replace the former Graduate Conference Courses listed in the Calendar by specific course offerings in those fields in which Department members are doing advanced work.

Ukrainian was also authorized as a second Slavonic language for students in certain programs.

Under the direction of Dr. E. Reinhold a special Summer School of Linguistics was held in conjunction with the regular summer session. Visiting professors included Dr. Martin Joos of the University of Wisconsin and Dr. J. P. Vinay of the University of Montreal. The venture was so successful that a second School is planned for 1959.

A modern language laboratory was installed during the summer and was used in the teaching of all four languages.

Three graduands of the class of 1958 received awards from the French Government for study or teaching in France. Miss M. Sporleder, Sessional Lecturer in French, received an award from the Federal Republic of Germany for study in German universities, and Miss M. A. Brine, Sessional Lecturer in French received a Canada Council award for study at the Sorbonne.

Philosophy and Psychology

Two new staff members were added to the Department since the last report. One of these, Dr. Strong, died suddenly on January 24th, 1959. Although he had been a member of the staff only since September 1958 he had already made great contributions to the life of the campus and to the community, and his death is a severe loss to the Department.

During the summer of 1958 Dr. R. L. James was visiting lecturer in Sociology at Wayne State University and Professor T. M. Penelhum was invited to teach a course in Ethics at the University of California, Berkeley. Professor Penelhum attended a Danforth Foundation Seminar at which he read a paper. Professor A. M. Mardiros attended and read a paper at the XIIth International Congress of Philosophy held at Venice in September. Dr. Esther Milner attended and read papers at the American Psychological Association Annual Conference, Washington, D.C., and at the annual meeting of the Society for Social Responsibility in Science, Swarthmore College.

Recently three members of the Department received grants from the Canada Council for study and research during the summer of 1959. Professor T. M. Penelhum received a grant in aid of research (\$700) and other productive scholarship, to enable him to consult works in the library of the University of Chicago. Miss L. Wilson received a partial pre-doctoral scholarship (\$600) to enable her to complete her Ph.D. at the University of Minnesota, and Dr. E. Milner received a short-term-grant (\$350) to enable her to continue a piece of theoretical research in psychology.

Physics

The Department suffered a grievous loss during the year by the death of Dr. E. H. Gowan, who had served the University faithfully for many years. In the Department of Physics the last year has been marked by new additions to the staff, by a further increase in the number of graduate students, by expansion of facilities for experimental research, and by the start of the new building.

The new appointments and the expansion of experimental facilities are closely linked. For some time the Department has had a group of staff working closely together in Theoretical Physics, but experimental research has depended upon the interests of individual staff members. With the increasing staff it is possible to extend the group principle to the experimental research program. Up to date experimental equipment can be very expensive, and the organization of research in groups has made it possible to acquire a few important pieces of basic equipment. Group organization and modern equipment will help to attract graduate students, and should add significantly to the strength of the Department. At present there are 15 graduate students registered in Physics, 7 of whom are Ph.D. candidates.

With some help from a National Research Council grant, a Collins helium liquefier has been purchased and installed, along with the auxiliary equipment necessary to make it a useful research tool. This permits the study of properties

of materials down to temperatures within a few degrees of absolute zero, and is basic to research in Solid State Physics. Group research in this field is being organized by Dr. F. D. Manchester, who is especially interested in the properties of metals at very low temperatures and in the peculiar properties of liquid helium itself, and by Dr. F. L. Weichmann, who is working on photoconductivity in certain types of semiconductors. Closely associated with this group is the work of Dr. H. A. Buckmaster, on the use of magnetic resonance phenomena as a clue to the molecular structure of certain materials. These experiments will be extended into the extreme low temperature range later. A large electromagnet weighing about 1.5 tons, which was installed during the year, will be used both for the magnetic resonance experiments and as auxiliary equipment for extreme low temperature experiments.

The appointment of Dr. J. T. Sample of the staff foreshadows the organization of a group in experimental Nuclear Physics. He has been engaged during the year in preparing the way for the removal of the Defence Research Board's Van de Graaff generator from the Suffield Experimental Station to the University of Alberta.

Research in Geophysics, under Dr. G. D. Garland, is being expanded into a group activity with the appointment during the year of a second geophysicist, Dr. K. Vozoff. They and a graduate student have been working together on a study, both in the field and in laboratory models, of the relation between earth currents and variations in the earth's magnetic field. A start has also been made on the study of heat flow in the earth's crust, by laboratory experiments on the conductivity of rock samples and by temperatures measurements in abandoned oil wells. In addition, Dr. Garland has continued his long term study, by geophysical methods, of the basic substructure underlying Alberta and British Columbia. He also assisted in the organization of expeditions to study some of the large glaciers of Western Canada. In April it was announced that Dr. Garland had been elected a Fellow of the Royal Society of Canada.

Closely associated with the work in Geophysics is that of Dr. J. Lipson on the mass spectrograph. This instrument, most of which was built in the Physics Department, was completed during the year, and is now being used in co-operation with the Geology Department in a program of dating rocks by analysis of the potassium and argon content.

The Theoretical Physics group has continued to be active in research, and to attract graduate students. They have had with them during the year Dr. P. C. Sood as a National Research Council post-doctorate fellow. Dr. A. B. Bhatia has completed some theoretical calculations on the behaviour of sound waves in solids, and has also been working on the manuscript of his book on Ultrasonics and the Physical Properties of Matter. Dr. L. E. H. Trainor, with Drs. Bhatia and Sood, have been working in theoretical nuclear physics, particularly on the properties of close-packed nuclear matter. Dr. H. Schiff and Dr. D. D. Betts have continued their work on the calculation of characteristic constants for various types of crystals. Dr. Betts spent the summer of 1958 at the National Research Council, working on similar problems.

Other members of the staff, not belonging to any group, have been active in their individual fields. Professor D. B. Scott, with a graduate student, has been continuing his work on the evaluation of the biological effects of beta rays, and has continued to act with the University staff as physics consultant on the medical use of radioactive isotopes. Professor K. B.

Newbound has continued with the reduction and organization of experimental results on the precise measurement of optical wave-lengths, and the precise determination of the refractive index of air. He also took charge during Dr. Gowan's illness, and after his death, of the latter's work on solar ultra-violet radiation, a project which has now been turned over to the Dominion Meteorological Service. Dr. J. H. Harrold has compiled more results on the interferometric study of microscopic detail in metallic surfaces. Professor Grayson-Smith has continued to act on the Committee for Hail Research of the Alberta Research Council.

The Physics staff at the University of Alberta in Calgary have also been active in research, and it is hoped that group research can be organized there in two fields: Biophysics with Dr. C. E. Challice and Dr. F. Terentiuk; and Cosmic Rays with Dr. B. G. Wilson. At present Dr. Wilson is dividing his time between the Banff Cosmic Ray Observatory (of the National Research Council) and the Physics Department in Calgary. For the first time in the history of the University a graduate student has been able to work for the M.Sc. in Calgary, in the field of Cosmic Rays. Dr. Challice has been working on the electron microscope examination of biological tissues, and spent the summer of 1958 at the New York State Department of Health Laboratories in Albany, New York.

Finally, along with the expansion of experimental equipment, there has been a significant expansion in the workshop facilities without which a physics laboratory cannot function efficiently. New precision machine-tools have been purchased and installed. Two full-time machinists and an electronics technician were added to the staff during the year, and finally in April a full-time glass-blower. Many projects can now be undertaken, which were previously impossible through lack of time, lack of technical assistance, or lack of equipment.

Political Economy

Two staff members were on leave of absence during the year; the department was also unable to make a new appointment in Economics. As a result, some courses had to be omitted from the 1958-59 academic program. We were fortunate in obtaining the services of several sessional lecturers.

Both Mr. Gainer and Mr. Mackenzie are expected to return before the beginning of the next term. They have made good progress in their research projects.

The Edmonton daytime enrolment in Economics during the academic term 1958-59 was 840; the enrolment in Political Science was 170. In Calgary there were 70 students in Economics, and in Lethbridge 16 students were enrolled in Economics 1.

Three students completed their M.A. requirements during the year.

Mr. Morton Brown, Fourth Year Honors in Political Science, was awarded the Rhodes Scholarship. Mr. Louis Parai, Fourth Year Honors in Economics, was awarded a Woodrow Wilson Fellowship. Mrs. M. L. Huston, a graduate student, received a Pre-Doctoral Award from Canada Council. Mr. Fred Hulmes, a graduate student, will go to England on an I.O.D.E. Scholarship next year. Mr. Glen Alexandrin, another graduate student, has received a scholarship from Clark University. Mr. James Sherbaniuk has been given a fellowship by Queen's University.

E. J. Hanson did a study for the Royal Commission on Education on the

economy of Alberta in relation to occupational changes and on educational finance. He was assisted by Mr. H. Uhlman, a Ph.D. student in Educational Administration. His study of the fiscal capacities of the Canadian provinces is continuing.

W. D. Gainer has finished the first draft of a study of northern transportation. W. Mackenzie is working at Oxford University on a study of the structure of the agricultural industry in Canada. M. Bauer will be going to the University of Chicago this summer, where he will continue a study of Credit Unions in Quebec.

B. Bociurkiw will be going to Washington, D. C., during the summer and also to the University of Chicago, to complete his study of Church and State in Soviet Russia. He has been awarded a research grant from Canada Council. G. R. Davy will be going to Duke University in North Carolina this summer on a research fellowship awarded by the Centre of Commonwealth Studies in that University.

F. Anton will spend some time in Ottawa and Detroit on a study in labor economics. G. K. Goundrey will continue his research on the campus.

W. Dawson will be preparing the manuscript of his D. Phil. thesis for publication.

Members of the Department participated in a variety of activities in their special areas and interests. These activities included a number of radio talks, speeches, addresses at conventions, consulting work and writing of reports and submissions.

Zoology

During the past year the Zoology Department lost two distinguished senior members: In October, 1958, Dr. J. E. Moore was indefinitely committed to hospital; on February 23, 1959, Dr. R. B. Miller, Head of the Department, succumbed to a long illness.

Because of the illnesses of Drs. Miller and Moore, Dr. J. R. Nursall was given responsibility for the administration of the Department for 1958-59, on September 24, 1958.

Dr. Cleveland P. Hickman, Jr., who came as a physiologist from the University of British Columbia, has begun a research program on iodine metabolism of freshwater fishes, using radio-iodine as a tracer substance. Dr. Victor Lewin, who came as an ecologist-ornithologist from the Berkeley campus of the University of California, plans to begin a study of the reproductive cycle of the ruffed grouse, (*Bonasa umbellus*). Both have carried full teaching programs. Mr. David A. Boag joined the department as Curator, with the rank of lecturer; his duties have been to look after the housing and display of the faunal collection of the Department. Owing to the loss of Dr. Moore, Mr. Boag was called upon to give the course in comparative anatomy of the chordates.

During the summer the Department moved from its inadequate quarters in the Medical building to its new location in the Agriculture and Biological Science Building. The move was accomplished with a minimum of difficulty, but the process of settling-in extended well into 1959.

Within its new quarters the Zoology Department feels capable of extending the limits of its teaching and research. To this end, the Department is establishing a complete stockroom of equipment and supplies and several rooms for specialized study and research, and is expanding its staff.

During 1958-59, nearly 800 students were registered in courses taught by the Zoology Department, 425 of them in Zoology 1 alone. Fourteen demonstrators and a Teaching Fellow assisted in the laboratories.

The first student to complete the Honors Zoology Program graduated in 1959. The Honors Conservation Biology Program went out of existence with the graduation of the two last students following it. Three graduate students were associated with the Department, but none of these finished his work this year.

Close liaison was maintained with the Alberta Department of Lands and Forests. Under the joint sponsorship of that Department and the University. The Alberta Biological Station on Gorge Creek was successfully operated during the summer of 1958, and will resume operations for the coming summer in May, 1959. At the station in 1958, Dr. Miller completed another series of experiments in his study of metabolism and survival in trout. Mr. David Sheppard, supported by a Canadian Industries Limited Wildlife Management Fellowship, continued his studies of the mule deer (*Odocoileus Hemionus*), as research towards the M.Sc. Mr. Glen Adams started a study of the columbia ground squirrel (*Citellus columbianus*); this, too, will be used as credit towards the M.Sc. Mr. Boag continued his studies at the Biological Station, on the blue grouse (*dendragapus obscurus*).

Dr. Mackie spent some time at Victoria, B.C. during July, collecting invertebrate teaching materials for the Department and specimens for his own researches into tissue regeneration. Dr. Nursall continued his investigation into mechanisms of swimming in chordates.

During the academic term research was forced to a minor place in the duties of the Department, owing to the problems of establishment in new quarters and greater teaching loads than had been anticipated. However, Dr. Lewin was able to take over the duties performed by Dr. J. E. Moore for the past eight years in the annual North American Census of Small Mammals. His report to the census co-ordinator will be published in due course with the annual reports of all other co-operators. Early in 1959, Dr. Lewin was chosen to represent the Department of Zoology on the Predator Advisory Committee for Alberta, a committee sponsored by the Alberta Department of Lands and Forests. Despite restricted research, the Department was able to get an extension and an increase in a research grant from the National Research Council. In 1957-58, our grant amounted to \$4500, most of which aided studies at the Biological Station; on April 1, 1959, the Department was granted \$11,000, most of which will go to provide support for the researches of individual staff members.

Dr. Nursall represented the University at the meetings of the Canadian Committee on Freshwater Fisheries Research, and the inaugural meetings of the Canadian Society of Biologists in Ottawa, January 8 and 9, 1959.

Dr. Mackie and Dr. Nursall each presented a paper at the meetings of the Royal Society of Canada in early June, 1959.

Report of the School of Commerce

Faculty Changes

Following the resignation of Professor B. A. Lindberg as Director of the School of Commerce in the early summer of 1958 the general supervision of the work of the School was carried on by Dr. D. E. Smith, Dean of the Faculty of Arts and Science. Dean Smith was assisted by Mr. William Presling,

Lecturer in Business Administration, during the summer months, and by Dr. Herbert Axford, Associate Professor of Business Administration and Secretary of the School of Commerce, during the academic session, 1958-59.

Mr. Emmett Wallace resigned his position as Associate Professor of Business Administration effective August 31, 1958, and Mr. Winfield S. Carrick resigned as Lecturer (case-writer) effective August 15, 1958. Mr. Ross P. Alger was appointed Instructor in Business Administration at the University of Alberta in Calgary for the 1958-59 session.

Curriculum

The first year of the revised curriculum was offered in the 1958-59 session including the new courses Business Administration 1 or 200 (Introduction to Business) and Psychology 47 or 220 (Psychology applied to business and industry). Approval was secured for two new courses in the second year, Business Administration 300 (Administrative Principles) and Business Administration 310 (Commercial Law), the latter replacing two previous courses in Commercial Law. The course in Marketing will comprise two divisions of one semester each in Advertising and Retailing. Finally, a course in Business Finance was approved for offering in the third year in the 1959-60 session. With these changes the curriculum of the School will be better able to meet the needs of students planning careers in business.

Case Collection

The University of Alberta now has 213 cases copyrighted.

During the 1958-59 session the School again provided cases for the Inter-collegiate Bibliography compiled by the Harvard School of Business Administration. Twenty-five cases were contributed by the School to this organization for inclusion in the present Volume III.

During the year fifteen cases were re-written and revised and eleven new cases, based on student assignments in Business Administration 55 were completed. Another sixteen cases from the same source were being drafted during the year. Mr. Preshing had written six new cases with nine more in progress.

Extension Work

A course in Marketing was presented to the Canadian Men's Trust Association, a course in Business Management to the Engineering Institute of Canada, and a course in Personnel Problems to the Personnel Workshop.

Dr. H. M. Axford sat on the Advisory Committee for a three year program on Principles and Practices in Real Estate.

Banff School of Advanced Management

Dr. H. M. Axford gave a week of lectures on Business Communications and another week of lectures on Financing Small Business in the Tenth Session of the Banff School of Advanced Management. The School of Commerce has also acted in a liaison capacity with the alumni of the Banff School of Advanced Management in Edmonton.

Mr. Preshing was the official School of Commerce representative to the Tenth Annual Business Men's Weekend and Alumni Reunion, which was held at the Banff School of Advanced Management from February 26 to March 1, 1959.

A large number of the students and faculty of the School of Commerce

attended the one-day Seminar on Canadian Economic Problems held at the Jubilee Auditorium in Edmonton under the joint auspices of the Banff School of Advanced Management, the Banff School of Advanced Management Alumni Association, Edmonton, and the Edmonton Chamber of Commerce.

Report of Professor Hazel McIntyre, Director of the School of Household Economics

Registration was 427 including summer school. This was an increase of 69 over last year, but due to a weak first year class in 1957 the total registration in the school was ten less than last year.

The attendance in Education classes is higher. We are hoping this trend will continue since there has been a tendency to register in Household Economics courses in summer school. The heavy summer school classes are most difficult to accommodate in our department, and laboratory courses cannot be carried on as successfully during the summer.

Staff

This year we have four full time instructors and two sessional. We hope to have six permanent members next year. We acknowledge with deep gratitude the very fine work done by Mrs. Helen Bentley as a sessional instructor for the past ten years. We have two new staff members in the University dining hall—Miss Lila Mann and Miss Shirley Manser. Nearly all members of the staff hold positions on the executives of professional associations and have been busy with professional responsibilities. Miss Duggan, who is a member of the Canadian Council on Nutrition, attended the conference in Ottawa in October. Opportunity for speaking engagements has increased steadily. The interest shown in Career Days shows a marked increase.

Three of our graduating students are continuing with advanced work in the United States. Miss Betty Donald is the second of our graduates to be awarded the much coveted General Foods Fund Fellowship for \$3000, in the United States. This was won by Miss Mary Morrison in 1958. We are pleased to record that two of our graduates—Elizabeth Empey and Mary Morrison—will have obtained Doctor's degrees this year. Two others are starting their work towards a Doctor's degree and four should complete their Master's degree.

The work of the department was stimulated this year by the acquisition of a microwave oven. This equipment has been used by the students and staff. Since this equipment is going into use in hospital food service as well as restaurants it will be most valuable for our students to have a knowledge of its limitations as well as its value.

Report of Dean H. R. Maclean of the Faculty of Dentistry

The total enrolment was the same as the previous year, although the graduating class shows a decrease of five. The admissions committee still has too few names from which to choose an entering class; although 83 applied for Dentistry only 35 of these had pre-professional averages of 65% or over to fill a class quota of 30 students. We find many reasons why good students are not directed or encouraged toward Dentistry as a career, although few professions offer more advantages or opportunities at this time. Therefore, recruitment—a term not popular with out guidance and counselling organizations—seems to us to be a necessary action. The Alberta Dental Association

has had a committee working on this problem. We hope to see the results of their labors in the coming list of applicants.

Many applications are still received from the United States and distant areas in Canada. We have advised these people to study in centres closer to their homes and do not encourage them unless there is a particular reason to come to this province. A number of requests for information and indications of intended residency are received from dental graduates trained in Europe. These people require on the average at least two years or more in our school to equal the qualifications we expect and demand from our own students. Our registration this year shows one student from Ghana, in the first year, and two European graduates who are receiving additional training in order to qualify.

Our academic staff is composed of four full time and twenty-six part time teachers. There is real necessity for an increase in the number of full time staff. It is impossible for these men to do the teaching, study and research that they are capable of doing because of administrative duties essential to operating the faculty being placed on the shoulders of four men. Regular monthly staff meetings are held where administrative problems are discussed and a scientific presentation is made.

The dental clinic has rendered service to 1,072 patients during the past year. One hundred and eighteen children were given preventive or interceptive orthodontic service. The Dental Pathology Laboratory prepared 1200 histological slides. Low carbohydrate diet was prescribed for 200 patients.

Five day courses in pedodontics and orthodontics were offered to the profession in 1958. A refresher course held in August 1958 was attended by 121 members of the profession. Guest lecturers were Dr. J. Thompson, Northwestern University, Dr. Muhler, University of Indiana, Mr. D. J. Rank, Australia and Dr. M. Alton of the University of Alberta Hospital staff.

Dean MacLean was elected president of the National Dental Examining Board for the second time in June 1958 at the annual meeting held in Ottawa. Dr. MacLean attended meetings of the board of governors of the Canadian Dental Association in Montreal in October 1958, the Meeting of Deans of the American Association of Dental Schools in Chicago, the Council on Dental Education of the Canadian Dental Association in Toronto in February, the International Association for Dental Research and the American Association of Dental Schools convention in San Francisco in March where he presented a paper to the Orthodontic section. Dean MacLean also presented a one day lecture and clinic to the Vancouver Island Dental Society in Victoria on April 18th, and met with the Alberta Alumni of that group on April 19th.

Twenty-seven graduates took the National Dental Examining Board examinations, June 1958 and all were successful.

Faculty liaison representation was maintained at all the meetings of the executive board of the Alberta Dental Association.

Dr. C. R. Castaldi was elected president of the Alberta Chapter of the Canadian Society of Dentistry for Children and organized the first clinical meeting of this body in September of 1958. Dr. Castaldi gave ten lectures to the Saskatchewan Dental Society at five different points in May 1958.

Dr. S. D. Fraser was made councillor of the Pacific Coast Society of Prosthodontists and Dr. H. H. MacLean was elected an active member of the American Academy of Oral Roentgenologists.

In May 1958 Dr. H. Beyron of Stockholm, Sweden, gave the staff an excellent series of lectures over a three day period.

The following research projects are in progress at the present time:

- (1) A survey of the Dental Status of Pre-School Children living in Wetaskiwin (1 PPM Fluoride Area) and Camrose (Negligible Fluoride Area) Dr. C. R. Castaldi.
- (2) Sociology Study of Attitudes of the Public Regarding Fluoridation—Dr. C. R. Castaldi and Professor R. James.
- (3) A study of Enamel Faults and the Relationship to the Time of Brain Damage in Experimental Animals—Drs. K. A. McMurchy and C. R. Castaldi.
- (4) A study of Defects in Class II Amalgam Restorations in Primary and Young Permanent Teeth—Dr. C. R. Castaldi.
- (5) A study of Resorption of Enamel, Dentin and Cementum—Dr. K. A. McMurchy.
- (6) A study of Traumatic Tooth Movement—Drs. R. D. Haryett and K. A. McMurchy.
- (7) A study of the Basic Oral Reflexes—Dr. R. D. Haryett.
- (8) A study of Inflammatory Response to Sterile Glass Rods in Connective Tissue Related to Endodontic Treatment—Dr. R. L. Tegart.
- (9) A study of Positions of the Mandible in Edentulous Patients During Prosthetic Treatment—Dr. R. P. Mullen.

Drs. Castaldi and Haryett presented seminars in four different centres to groups of practitioners totalling 80 in number throughout the province. These seminars were very well received and this is a marked contribution to graduate dental education in this province.

Dr. Tegart attended the International Endodontic conference, University of Pennsylvania, in June.

In April 1958, Dr. C. R. Castaldi visited the Harvard Dental School for two weeks, studying experimental animals used in Dental Caries Research. Traveling expenses were provided by the Canadian Dental Association.

In October Dr. Van Alstine took a civil defense course related to Medicine and Dentistry in Ottawa. Drs. McMurchy and Tegart attended the Western Regional meeting of the National Research Council held at Banff in January. Dr. McMurchy attended a five day conference on Oral Pathology held in Minneapolis in April.

Guest lecturers at the Alberta Dental Nurses Association included Drs. Cameron, Castaldi, Duke, Florence, Fraser, Haryett, Hawkins, MacDougall, MacLean, McMurchy, Stewart and Van Alstine.

Drs. Castaldi, Haryett, McMurchy and Van Alstine gave a series of lectures to the nurses at the University of Alberta Hospital.

Dr. Fraser presented an afternoon and evening clinic in Peace River to the Peace River and district Dental Society.

In March Dr. Castaldi spoke to the Devon town council and together with Dean MacLean spoke to the Medical and Dental Profession of the Westlock area in the Westlock General Hospital.

Dr. Castaldi represented Alberta on the Associate Committee on Dental Research of the National Research Council in Ottawa and is also a member of the Research Committee of the Canadian Dental Association.

Report of Dean H. T. Coutts of the Faculty of Education

Additional information concerning this Faculty is included in the reports of Dr. A. L. Doucette, Director of the University of Alberta in Calgary and of Dr. J. W. Gilles, Director of the Summer Session and Evening Credit Program.

Registration

Student enrolment rose significantly in the first two years of the B.Ed. program, in the B.Ed. program following a B.A. or equivalent degree, and in the Evening Credit Program. The most significant increase was in the secondary route. The enrolment in the Junior Elementary Program dropped slightly. The Faculty maintained active records for 2168 students during 1958-59, 701 of them in the Evening Credit Program, 1312 in full-time programs leading to the B.Ed. degree, 131 on partial programs, and 24 full-time graduates, doctoral and master's, were in residence during the year.

Degrees (see Table XIX)

Diplomas and Recommendations for Certification

The Junior and Senior Diplomas of the Faculty of Education were issued for the last time in November, 1958. For this reason we shall report here the number of students recommended to the Department of Education for the Standard E, Standard S, and Professional Certificate.

	Nov. 1958	May 1959	Total
Standard E Certificate	59 (53)	38 (46)	97 (99)
Standard S Certificate	122 (86)	203 (106)	325 (192)
Professional Certificate	217 (161)	120 (109)	337 (270)
	<hr/>	<hr/>	<hr/>
	398 (300)	361 (261)	759 (561)

Developments during 1958-59

(a) Visitor to the Faculty

The Faculty of Education was pleased to welcome Dr. Robin Pedley, Lecturer in Education, University of Leicester.

(b) Curriculum

Slight modifications were made in the elementary and secondary route programs for the preparation of teachers. The admission standards to the Junior Elementary Program were raised to take effect on September 1, 1959.

(c) Leave of Absence

In September, 1958, Professor H. S. Baker, Chairman of the Division of Secondary Education, returned from a sabbatical leave spent at the Institute of Education in London. Professor B. E. Walker of the Division of Secondary Education spent 1958-59 on post-doctoral studies at Aix-en-Provence in southern France. During the year 1958-59, Mr. Worth and Mr. Harper were on leave of absence, the former at the University of Illinois and the latter at Edinburgh University.

(d) Staff Changes

On September 1, 1958, Mr. John E. Cheal, Mr. W. B. Dockrell, Dr. Marion B. Jenkinson, Mr. M. R. Lupul, Dr. John Macdonald, and Miss Evelyn Moore joined the staff in Edmonton with the rank of assistant professor. Sessional instructors during 1958-59 included Miss Mary Crawford, Mr. Otto Fritze, and

Dr. H. E. Smith. Additional assistance was provided by a number of graduate fellows.

Professor S. C. T. Clarke resigned at the end of 1958 to become General Secretary of the Alberta Teachers' Association. The Faculty recognizes the contributions made by Dr. Clarke as teacher, author, and research worker.

The Faculty of Education notes the retirement of Professor H. A. MacGregor who has served public education for many years as teacher, school superintendent, and defender of science education. The Faculty wishes Dr. MacGregor a long and happy retirement.

It is with regret that we accept the resignations of Associate Professor Barnett (Music Education) and Assistant Professor Wade (Art Education). Both have made valuable contributions in their respective fields.

Stanford University conferred the Ph.D. degree on Mr. E. W. Buxton, Mr. H. T. Sparby, and Mr. B. Y. Card since our last report.

(e) Representation at Professional Conferences

The Faculty was represented at the Western Canada Conference on Teacher Education (Banff), The Canadian Association of Professors of Education (Edmonton), The National Conference of Canadian Universities (Edmonton), The Canadian Education Association (Victoria), The Canadian Association of Education Through Art (Vancouver), The International Association (Toronto), and several national meetings in the United States.

(f) Graduate Study and Research

During 1958-59, the Faculty of Education continued its activity in graduate study and research. The installation of a card punch, verifier, sorter, and tabulator made possible research of much broader scope. The first in a series of monographs on education was published.

The Faculty again recognizes the assistance to its graduate and research programs of continuing grants from the W. K. Kellogg Foundation and the Carnegie Corporation of New York.

Divisional Reports

The reports from our four Divisions show more fully the variety and significance of activities in which the staff of the Faculty have been involved. The Dean recognizes with appreciation the cooperation and helpfulness of the staff of the Faculty of Education in Calgary and Edmonton, of the demonstration teachers who assist with our programs, of the clerical staff, and of others who have assisted us during the year.

Divisional of Educational Administration (Dr. A. W. Reeves, Chairman)

Each candidate for a teaching certificate takes one basic course in school administration to acquaint him with provincial school organization. This phase of the Division's work is under the direction of Mr. Harold Melsness who, in conjunction with Mr. John Cheal, is preparing a text in this field. This text should be a valuable contribution to teacher education in Canada since few books on school administration are based on Canadian theory and practice.

Educational administration is primarily for those who have completed their basic teacher education and who have had considerable classroom experience. For this reason the Division's work is largely with graduate students who are preparing themselves to be principals of large schools,

superintendents, administrators in departments of education, and professors of educational administration. The program offered is national in scope and attracts students from several provinces. In Canada it has been common practice for students in education to seek advanced degrees by summer session only. While this practice still exists at the University of Alberta (the Division served seventy-five summer session candidates for the M.Ed. degree in 1958), the 1958-59 intramural program enrolled eight candidates for the doctor's degree and ten for the master's.

Because of its unique position in Canadian school administration, the Division has some rather clearly defined objectives. These include: the improvement of preparation programs for educational administration; the stimulation of research in educational administration and the reporting of findings to practitioners; the development of the Division as a service centre for local and provincial organizations. This report will illustrate progress made toward achieving each of these objectives.

In 1958-59 increased attention was given to field experience as a part of the training program. Each student participated in a variety of worth-while activities selected to supplement other experiences in administration. For those with limited backgrounds internships were arranged. The type of program being developed requires the appreciation and support of administrators in the field. As a means of fostering cooperation of this nature the Division sponsored a three-day regional conference at Banff. This meeting was attended by city superintendents, Department of Education officials, professors of school administration and representatives of the Canadian Teachers' Federation and the Canadian Trustees' Association.

The major research project of the Division in 1957-58 was the composite high school study. The first phase of this study was reported in the newly established series of monographs of the Faculty of Education. (*Composite High Schools in Canada*, University of Alberta Monographs in Education, No. 1). The second phase of the composite high school study incorporated the individual research studies of the Division's fellowship students. The results of their investigations are being published in *The Alberta Journal of Educational Research*. The following are among the topics suggested: Alberta composite high schools and gifted youth; the extra-curricular programs of the composite high schools; role conflict in the principalship of the composite high school; a comparative study of discipline cases in the composite high schools; the guidance value of Grade IX examinations marks in relation to matriculation in the composite high schools; students of low academic ability in Alberta composite high schools.

The studies relative to the composite high schools are representative of the research activities of the Division. Dr. Mowat and his students have done significant work in school finance; Dr. Sparby has focussed attention on school law; Dr. Andrews continues to work in the area of educational leadership.

During the year members of the Division participated in a variety of service activities. The following illustrated the nature and extent of these services. Dr. Mowat continued as Vice-Chairman of the Alberta Royal Commission on Education. Dr. Andrews directed the Alberta Leadership Course for School Principals. Dr. Reeves was Associate Director of the Canadian Education Association Short Course for Canadian Superintendents. Dr. Sparby and Dr. Reeves, at the request of the School Board, conducted

a survey of the administrative organization of the Medicine Hat School District.

Division of Elementary Education (Dr. W. D. McDougall, Chairman)

The primary responsibility of the Division of Elementary Education is the preparation of teachers for the elementary classrooms of the province. Another important but secondary function is that of leadership in in-service programs for certificated teachers. In connection with this latter function, the staff of the Division has participated in conventions, institutes, and workshops in many centres in Alberta, and as far distant as Nova Scotia, Ontario, New York, Louisiana, and California.

To the extent that their primary responsibilities permitted, staff members accepted invitations to speak at meetings of the Home and School Association. Those accepting such invitations included Mr. Hodgson, Miss Dey, and Mr. Forbes.

Members of the Division served on curriculum and other committees of the Department of Education. Those most heavily involved were Miss Caldwell, Dr. Barnett, Mr. Hampson, Dr. MacGregor, Miss Lampard, Mr. Hodgson, and Dr. McDougall. Despite their heavy involvement in teaching and supervision of student-teachers, Miss Lampard and Dr. Jenkinson acted as consultants in many cases of reading disability brought to their attention by superintendents, teachers, parents, and clinics. Mr. Forbes conducted special extension classes in art in the city and in Fort Saskatchewan; Mr. Hampson made important contributions to the conservation of wildlife through illustrated lectures in Alberta and Saskatchewan and by superb examples of his photographic skill in *Birds of Alberta* by Rr. Salt and B. Wilk. Mr. Hampson has also completed twelve filmstrips for the "North American Wildfile" series. Mr. Hodgson was exchange lecturer for a week at the University of British Columbia. During the summer of 1958, Miss Caldwell was studying at the State College at Greeley, Colorado.

The University Elementary School continues to be an indispensable adjunct of the faculty. Under the capable direction of Mr. Henry Simonson, the school's teachers taught a total of 297 demonstration lessons to approximately 12,000 observers.

Division of Educational Psychology (Dr. G. M. Dunlop, Chairman)

The staff of the Division includes Messrs. Schonfield, Dockrell, and Harper, Drs. Gilles, Clarke, MacArthur, Woodsworth, Black, Anderson, Macdonald, and Dr. Dunlop. During 1958-59, the Division provided the usual course offerings in the regular session, the summer session and the evening credit program.

Five doctoral candidates are currently sponsored by the Division. Four of these should graduate in May, 1959. The Division serves, in addition, a large number of M.Ed. candidates, mostly through the summer session. A special feature of our graduate work is the Seminar in Educational Psychology.

The staff served on national, provincial, university and faculty committees:

National Committees—The CEA Research Council, the CTF Research Committee, the National Advisory Committee on Educational Research.

Provincial Committees—Alberta Mental Health Association, Provincial Guidance Committee, Alberta Advisory Committee on Educational Research, Teacher Recruitment and Retention, Alberta Matriculation Study Committee, Provincial Audio-Visual Aids Committee, A.T.A. Streaming Committee.

University Committees—University Research Committee, the First Year Committee, The University-Department of Education Subcommittees on Articulation, The Faculty Council on Graduate Studies, University Radio Committee, General Faculty Council Committee on Grading Systems.

Faculty Committees—Faculty Space and Timetable Committee, Library Committee, The Faculty Committee on Educational Research, Faculty Revisions Committee, Revision Committee for First Year Courses, Committee on Christmas Examinations, Faculty Committee on the Meaning of Marks and on Re-numbering of Courses.

Dr. Woodsworth has replaced Dr. Clarke on the Provincial Guidance Committee. Dr. MacArthur is serving as Chairman of the Committee on Grading Systems sponsored by General Faculty Council. Again it is to be noted that the staff gave generously of their time in addressing conventions, institutes and other educational gatherings. Dr. Anderson and Mr. Schonfield presented addresses to the Canadian Psychological Association at the annual meeting of the Learned Societies in Edmonton. Drs. MacArthur and Dunlop attended the Canadian Education Association meetings in Victoria at which both participated in panel discussions.

Dr. MacArthur served as Research Director to the Cameron Royal Commission on Education. Drs. Black and Dunlop were associated with the Clover Bar Educational Survey. Dr. Macdonald is providing leadership in an extensive study of achievement of over 4000 Grade VI children in the Edmonton Elementary School System.

Under the sponsorship of the Carnegie Corporation of New York, Dr. MacArthur visited ten universities in the north western United States studying current activities and policies concerning research in psychology and education. Dr. Charles C. Anderson is currently on a similar visit to the research institutions of the western United States.

Mr. Dockrell is investigating memory scores of severely retarded children; Dr. Anderson is studying moral attitudes of adolescents.

Drs. Black, Clarke, Dunlop and MacArthur served on the Faculty Committee on Educational Research.

Professor Dockrell directed the Education Clinic which serves as a laboratory for students in clinical courses as well as performing a referral role for the Edmonton City school systems. During the year 297 children were examined, all receiving individual intelligence tests. In 43 cases diagnostic tests were administered. In 37 cases projective personality tests were employed. Thirty children received clinical treatment for an average period of three months.

Division of Secondary Education (Dr. H. S. Baker, Chairman)

The Division of Secondary Education has continued and expanded its work at both undergraduate and graduate levels. At the former it has absorbed a substantial increase in student enrolments, and anticipates a further increase in 1959-60. At the graduate level it enrolls one hundred and fifteen M.Ed. candidates, the great majority of whom are proceeding to their degrees by summer session. One doctoral candidate is at the beginning and another is completing his program.

A major activity of the Divisional staff during the year has been the revision of its program to bring it in line with changing school needs. In particular, the minimum requirement of "content" courses has been increased

from six to seven, with more detailed guidance than heretofore in course patterns. Sociological emphases have been strengthened.

Graduate programs in the Division include the history and philosophy of education as well as secondary education as such. During the year a new seminar course was offered in each area: one on research in the teaching of English, and one on the analysis of educational theories. Further developments planned for the summer sessions of 1960 and 1961, involve visiting lecturers in comparative education.

The Division offers in both winter and summer sessions a graduate course in curriculum principles and practice to serve both its own students and those of the Division of Educational Administration.

Two new members of staff joined the Division in the fall of 1958: Mr. D. H. Crawford in science and mathematics education, and Mr. M. R. Lupul in history and philosophy of education and the social studies. Further expansion is planned in science and in business education. Dr. Bernal Walker, who has been on sabbatical leave during the past year, will be rejoining the staff in the fall of 1959.

In addition to their regular duties in the classroom and in the supervision of student teaching, all members of staff have been active in a variety of ways. Dr. Baker and Mr. Crawford have published articles in *The Alberta Journal of Educational Research*. Dr. Buxton has been engaged in the revision of high school texts in English. Mr. Pilkington serves as assistant to the Dean; Mr. Lupul, as coordinator of secondary methods courses. As usual, members of the Division have been much in demand at teachers' conventions, institutes, zone and departmental meetings. They serve also as regular members of Departmental curriculum committees.

Report of Dean R. M. Hardy of the Faculty of Engineering

The number of undergraduate students in the Faculty during the 1958-59 session was 1240 as compared to 1134 and 932 during the past two sessions. The increase in registration this year is at a somewhat lesser rate than during the past few years, and reflects the present trend to reduce registrations at all of the engineering schools across Canada. However the total for the present session at this University places the Faculty of Engineering third amongst the Engineering Faculties at Canadian Universities in terms of number of students in attendance.

The graduating class this session includes 175 students in all branches of Engineering which is an increase of 14 as compared to the previous session.

Major changes in the curricula in engineering, reported a year ago, and in which greater emphasis was placed on the basic sciences of mathematics, physics, chemistry and mechanics, went into effect during the current session. The modifications appear to be working out satisfactorily. Nineteen students were accepted in the third year for a program leading to the degree of B.Sc. in Mechanical Engineering, and during the session approval was given for the establishment of a department of Mechanical Engineering with full degree course privileges. A new degree course in Metallurgical Engineering was also introduced with the emphasis on extractive metallurgy. The demand for engineering graduates has continued at a high level in Canada but with the supply being somewhat closer to matching the demand than was the case previous to 1957.

Activity at the graduate level has increased in all of the Engineering

departments during the past session. Increased numbers of graduate students have been attracted to the graduate programs and this has resulted in a general increase in the amount of research work which has been undertaken in the Engineering departments. Members of the academic staff of the faculty have also been active in professional capacities. Specialized technical assistance has been provided to both public authorities and industry.

Extension activities of members of the academic staff of the Faculty continued in the form of correspondence, lectures, radio talks and extension courses. Two short courses each of five day duration were offered in co-operation with the Extension Department. One of these dealt with air photo interpretation for engineering purposes, and the second with the utilization of system analyzers in the electrical power industry. Both were well attended.

In the department of Electrical Engineering the Contraves Network Analyser has been employed on electrical power transmission network studies for Calgary Power Company, Canadian Utilities Limited and the City of Calgary. Precision instrument checking has been carried out for segments of the Canadian Armed Forces and local industry. High voltage testing of rubber gloves has been continued for the Alberta major power companies and the Department of Transport. Technical assistance has been provided to the City of Edmonton on problems arising from the installation of a new 20 30 MW gas turbine. Tests on the characteristics of certain motors for oil pumping equipment have been undertaken, and investigations have been continued dealing with certain system oscillations which occur when the City of Edmonton, Canadian Utilities and Calgary Power Company facilities are interconnected.

A major portion of the activities of the department of Mining and Metallurgy were again directed towards research. There are two large programs and two smaller projects underway. On funds made available by Eldorado Mining and Refining Company work has continued on heavy media concentration and a new project dealing with the use of activated carbon as an adsorbant for metal ions was undertaken. A similar major financial grant was provided by the Defence Research Board, Consolidated Mining and Smelting Company of Canada and the International Nickel Company of Canada Limited for work in the field of metallurgy. With these funds work was undertaken dealing with certain specific metal alloys including, Ti-base alloys, Ti-Ni alloys and Zn-d alloys. On a grant from the National Research Council a theoretical study was undertaken dealing with a relationship between contact angle and interfacial free energies in air bubble, water, mineral systems. Studies were also continued on a grant from the Department of Mines and Technical Surveys in Ottawa dealing with strata stress phenomena, particularly as related to coal outbursts in Alberta coal mines.

In the department of Chemical and Petroleum Engineering several major pieces of new equipment for petroleum reservoir engineering studies have been put into operation. These include apparatus for the electrical study of fluid distribution in porous media and for experiments on the various displacement mechanisms in fluid flow as well as equipment for running apparatus in the test well located adjacent to the Engineering building. Equipment has also been constructed for the high pressure study of filtration and formation damage in porous rocks. In Chemical Engineering an automatic process control network has been built for the use of graduate students in instrumentation studies. Work on long-term fundamental research projects has been continued in cooperation with the Alberta Research Council, and the Petroleum

Industry. Financial assistance for current research work was also provided by the National Research Council, Pembina Pipeline Company and Canadian Chemical Company. Incidental to these projects four M.Sc. theses were completed during the session. The subjects dealt with in these are:

1. Volumetric and phase behaviour of the methane-hydrogen sulphide-carbon dioxide system.
2. Hydrate formation in the methane-ethylene and methane-propylene systems.
3. Pyrolysis of propane in a surface combustion autothermic reactor.
4. Upwards vertical flow of air-water and oil-water mixtures, and in particular the effect of second phase density on pressure drop, flow pattern and holdup.

In the department of Civil Engineering further expansion occurred in the work of the department at the graduate level. A total of thirty graduate students were actively engaged in studies and research in the department in the fields of foundation engineering, highway transportation, hydraulics, applied mechanics and structures. The cooperative research program between the Alberta Department of Highways, the Alberta Research Council and the department of Civil Engineering functioned most satisfactorily during the session. Financial assistance for continuing on specific research projects was provided by the Alberta Research Council, the Department of Highways of Alberta, the National Research Council, Imperial Oil Limited and the Prairie Road Builders section of the Canadian Construction Association. Three major scholarships were provided at the graduate level in the field of Highway Transportation through the auspices of the Canadian Good Roads Association with the donors being Standard Gravel and Surfacing Company Limited, Westeel Products Limited and Union Tractor Company Limited.

Six M.Sc. theses were completed during the session; the subjects dealt with in these are:

1. Statistical interpretation of Canadian hydrometric data.
2. Direct measurement of strain in reinforced concrete pavement steel.
3. Use of the triaxial compression test in determining the strength characteristics of clay-shales.
4. Studies with small river model.
5. Evaluation of strength characteristics of Winger Pit and Crawford Pit gravels and the influence of additives upon the plasticity characteristics of Crawford gravel fines.
6. Evaluation of electronic computer techniques for highway engineering calculations.

Report of Dean A. G. McCalla of the Faculty of Graduate Studies

The Faculty of Graduate Studies has completed its first full year under the revised administration. Rapid growth of the work has been evident and improved service to students and departments has been possible.

Again this year the number of students seeking the Ph.D. degree has nearly doubled. All applicants are now accepted as provisional candidates and are admitted to formal candidacy only after proving competence. There were 26 candidates and 43 provisional candidates registered with the Faculty. Three departments: Chemistry, Dairy Science and Educational Psychology, graduate their first Ph.D. candidates this year.

Six students registered as provisional candidates for the newly established

Doctor of Education degree (Ed. D.). Most of these are registered in the Division of Educational Administration. The program emphasizes breadth in educational theory, practice and research rather than intensive specialization in a single area.

At the close of the year the Faculty was authorized to announce the establishment of new scholarship, fellowship and bursary awards under terms of the revised Students' Assistance Act. The program provides assistance totalling approximately \$40,000 and constitutes one of the best university graduate award plans in Canada. The new awards are open to graduates of any recognized university and may be held in any department offering graduate work. In addition, the grants and loans provided through the Students' Assistance Act, but formerly available only to undergraduate students, will now be available to graduate students.

Last year's report referred to registration for the intersession and the recognition of intersession work for residence credit. A total of 82 students were registered last summer, 55 of them in degree programs. It is anticipated that increasing numbers of students will carry on their research between regular sessions and take advantage of the intersession credit. The new scholarship program has been designed to encourage this.

The total number of students registered for at least one session again increased substantially from 410 to 509. The increase included 27 graduates in Medicine who were registered in the Graduate Training Program and were also registered in this Faculty as Special Graduate Students. The largest increase took place in registrations for the regular academic year from September to May. This is shown by the following distribution figures which omit the special medical students:

Session	Number of Students	
	1957-58	1958-59
Regular winter	285	328
Summer	148	152
Evening credit	44	35
Duplicates	—57	—33
Total	410	482

It is further clear that the increase was largely in doctoral programs. The distribution on students in the winter session on the basis of degree sought was as follows:

	Number of Students		
	1956-57	1957-58	1958-59
Master of Arts	34	48	55
Master of Education	70	55	50
Master of Science	72	111	109
Doctor of Philosophy	18	36*	69*
Doctor of Education	—	—	6*
Total	194	250	289
Provisional students	45	35	37
Special students	—	—	33

*Includes provisional candidates and candidates.

In addition 32 candidates for the M.Ed., one for the M.A. and one provisional student were registered in the evening credit program. All duplicates have been eliminated from these figures.

Again this year a large proportion of the 152 students registered for Summer Session were working towards degrees in Education, particularly the M.Ed. A number of doctoral candidates also registered this session and there appears to be an increasing tendency for such candidates to concentrate residence over a period of two summer sessions and the intervening winter session and intersessions.

Last year's report referred to the six-year time limit for completing work for a graduate degree. Students who began graduate work up to 20 years ago have assumed that they are entitled to complete degree requirements on the terms originally accepted. The Faculty has ruled that candidates who are already over the limit, but wish to continue, must apply for re-admission. Records will be reassessed and in many cases additional work will be required. Where additional work is required, fees will be adjusted accordingly. The introduction of this procedure has already resulted in a considerable number of students re-establishing their position in the Faculty.

Finally, the Faculty is drawing an increasing number of students from outside Canada. Only a few of nearly 100 applicants from India could be admitted as nearly all require financial assistance. For the first time an appreciable number of students from the United States have come here for advanced work. As usual graduates of many Canadian Universities are registered in the Faculty.

Report of Dean W. F. Bowker of the Faculty of Law

Academic

The number of students in attendance was as follows: Law I—38; Law II—28; Law III—30. The total enrolment and the number in the graduating class are larger than in the past few years.

During the year the newly formed Western Canada Law Students Association met here on the weekend of October 24, 1958. The students arranged a creditable program. Members of the staff from the University of Saskatchewan were also present. The teachers held an informal meeting to discuss matters of common interest.

In October, Dr. George Schwarzenberger of the University of London, and in March Dr. Wolfgang Friedman of Columbia University, addressed the students. In addition, there was a talk from Mr. C. D. Williams of Tennessee Gas Transmission Company.

There were no changes in the full-time staff during the session. This fall a fifth member will be added. The Faculty still receives valuable assistance from several Edmonton practitioners who are sessional instructors.

During the meetings of The Learned Societies which were held here in June, 1958, this Faculty acted as host at the annual meeting of the Association of Canadian Law Teachers.

Library

Accessions to the Library continue at about the same rate as they have in the past few years. The administration of the Law Reading Room is satisfactory and the students make great use of it.

Curriculum

Various changes were put into effect last fall, mainly for the purpose of reducing the number of one-hour courses and of improving the organization of subject matter. The new introductory course seems to be satisfactory. The changes are not complete and further improvements will be made in the coming years.

The Law Society

The relations between the Faculty and the Law Society of Alberta continue to be of the best. Either the Dean or Dr. Alex Smith attend each meeting of the Benchers on invitation. Thus we have maintained the close liaison this Faculty has long enjoyed with the Society.

Placement of Graduates

The demand for articulated students is still good and graduates have no difficulty finding offices in which to article. The new regulations of the Law Society of Upper Canada make it impossible for our graduates to article in Ontario. This is because that Society's new standards impose such requirements as a session of thirty weeks of lectures which is about four weeks longer than our session. Consideration will have to be given as to whether we should attempt to meet Ontario's standards.

Report of Dean J. W. Scott of the Faculty of Medicine

Only fifty-four students registered in first year Medicine this year instead of the usual sixty. This decrease from the usual number of first year students was due to an insufficient number of applicants with academic standing high enough to assure them of a reasonably good chance of success in medical school. Since registration three students have, for various reasons, dropped out of the first year class, so that the maximum number that could satisfactorily complete first year would be fifty-one and it is likely that some of these will not be successful in the work of the year. It is of interest that in each of the four western Canadian Medical Faculties less than the usual number of first year students were admitted.

Major staff changes in the past year include the resignation of Dr. C. R. Amies as head of Preventive Medicine. Dr. Stanley Greenhill has been acting head of this department since September. Dr. E. J. K. Penikett has joined the Department of Bacteriology as Associate Professor, Dr. Cyril Kay is our new Assistant Professor of Biochemistry, Dr. George Monckton is now geographic full time Associate Professor of Medicine and Dr. Allan Stewart is Associate Professor of Pediatrics, marking the first time a basic scientist has joined the staff of a clinical department as a full time member. Mr. Kent Chapman, a biophysicist, has joined the staff of the Department of Physiology as an Assistant Professor and Dr. Cecil Couves became Lecturer in Surgery on a geographic full time basis. Dr. William Forster is geographic full time Assistant Professor of Psychiatry and Dr. T. A. S. Boyd joined our staff as Associate Professor of Ophthalmology (geographic full time).

These appointments will still further strengthen our staff and permit the completion of the extensive revision of the curriculum which was instituted three years ago. The new third year of this curriculum has just been completed for the first time and staff and students alike are generally enthusiastic about it although a few wrinkles are still left to be ironed out. The new fourth (and final) year, which will be started in September of 1959, is now completely

worked out, and will continue the emphasis on close student-patient contact with increased student responsibility.

We are pleased to report that the new addition to the Provincial Laboratory is now complete and will furnish us with greatly improved facilities for the teaching of Pathology, Bacteriology and Preventive Medicine. Work on the Service Wing of the University Hospital, which will give us many staff offices and new outpatient facilities, progresses well and we are particularly pleased to report that concrete is being poured for the foundation for the new addition to the medical building, which will more than double the space in departments now existing in that building.

The other Edmonton Hospitals have continued to give us outstanding cooperation in providing teaching facilities and this is particularly important because our new curriculum has necessitated increased ward teaching in all but the first year. A special tribute in this connection should be paid to the Charles Camsell Hospital which provides us with enthusiastic teachers and unfailingly cooperative patients.

Under the jurisdiction of the Faculty of Graduate Studies our teaching departments have, in the past year, had twelve graduate students proceeding to advanced degrees and one for a Ph.D.

Concurrently our Committee on Graduate Education, under Dr. M. R. Marshall's skilled chairmanship, has guided the training of thirty-two young men and women who are seeking specialist training in various clinical subjects and in pathology. These students will receive no University degree but they will become eligible to sit the certification or fellowship examinations of the Royal College of Physicians and Surgeons of Canada when their training is completed. This year, for the first time, these students were registered as special students in the Faculty of Graduate Studies of the University, and thus they are given formal recognition by the University under whose staff they receive their training. In the past year, also, their importance to the teaching program of our faculty was recognized by the University, which paid to each eligible graduate student a small honorarium, in return for his teaching services. As in past years we have had more applicants for our graduate training program than we have been able to accept, an indication that the training received continues to commend respect across the breadth of Canada. Since its inception a total of forty trainees have completed the course including nineteen members of our own teaching staff.

In the field of postgraduate training our Committee on Continuing Medical Studies has provided training for those doctors in this Province who wish to increase their knowledge without taking long, time-consuming courses. Of particular note in this regard are the short courses of two or three days' duration which are put on in Edmonton or Calgary, and deal with certain specialized areas of medical knowledge. In addition travelling teams of specialists again visited various Alberta centers.

Our most recent service, that of Heredity Counselling, continues to expand, and in the twenty-one months since its inception has been consulted by doctors, or their patients, about 110 times. Actually even this figure is now misleading since about eight to ten consultations per month is the current rate at which this valuable service is being used.

These latter two activities fall into the realm of extension work and it might be added that, including addresses to the refresher courses no fewer than 180 different lectures were given by members of our staff to various medical and

nursing groups and lay societies in Western Canada with the great majority of these being given in Alberta. This does not include a total of 92 scientific papers on original research given to learned societies of various types in this and other countries.

Research in the Faculty of Medicine continues to expand and in the past year no fewer than 121 publications of various types, the great majority of which reflected original research in our faculty, were accepted by learned journals in Canada and abroad. The total of funds given to our faculty in the 1958-59 fiscal year by various organizations so that original research could be conducted is as follows:

University of Alberta Medical Research Fund	\$ 20,675
Defence Research Board	11,415
National Research Council	81,525
National Cancer Institute	18,620
Alberta Heart Foundation	10,500
Department of Health and Welfare	37,438
Muscular Dystrophy Association	39,410
Other sources	20,237
<hr/>	
Total	\$239,820

The foregoing figures, which do not include various fellowships which provide aid for graduate students and for certain members of the staff, represent an increase of almost \$60,000 in the past year.

It is with great pleasure that we are able to report that for the third time in five years the Department of Surgery has won the medal of the Royal College of Physicians and Surgeons of Canada for the outstanding fundamental surgical research done in Canada in the past year. This year the recipient is Dr. Peter Allen, one of our graduate trainees in surgery.

Members of our staff have taken an ever increasing role in national and international organizations related to various aspects of medicine. They have acted in the past year as officers or members of council of the following such bodies: The Association of Canadian Medical Colleges, The National Cancer Institute, The National Research Council, The Genetics Society of Canada, The American College of Physicians, The American College of Surgeons, The Royal College of Physicians and Surgeons of Canada, The Canadian Medical Association, The Medical Council of Canada, The Edmonton Academy of Medicine, The Canadian and Alberta Heart Associations, The Defence Research Board.

The following honors have come to members of our staff in the past year:

Dr. H. E. Rawlinson has been elected President of the National Cancer Institute of Canada.

Dean Scott has assumed his duties as President of the Royal College of Physicians and Surgeons of Canada.

Dr. E. T. Pritchard was invited to take part in the Gordon Research Conference on Lipide Metabolism.

Dr. K. A. Hamilton has been appointed Alfred P. Sloan Visiting Professor to the Menninger Clinic.

Dr. A. S. Little was awarded the Elizabeth Archibald Bowes Travelling Scholarship, sponsored by the American College of Physicians.

Dr. John W. McGregor was elected President of the Alberta Division of the Canadian Medical Association.

Dr. E. O. Hohn was awarded a Clark University Fellowship in Steroid Biochemistry.

Dr. J. W. Pearce is President of the Panel on Aviation Medicine of the Defence Research Board.

Dr. P. Allen (Graduate trainee) received the Medal of the College of Physicians and Surgeons of Canada for original Surgical Research.

Dr. L. P. Mousseau was awarded an Honorary L.L.M. degree from Laval University, Quebec.

Many members of staff obtained membership or fellowship in various colleges, academies and associations, both in this country and abroad.

The whole Faculty was honored in the establishment, on this campus, of a chapter of Alpha Omega Alpha Honor Medical Society, which is a non-secret organization dedicated to improving standards in medical training and practice.

The following distinguished Medical Scientists were visitors to our Campus in the past year:

Mr. B. K. Rank, Sims Commonwealth Travelling Professor (Surgery), from Melbourne; Mr. A. I. C. MacPherson, Edinburgh Royal Infirmary (Surgery); Dr. D. R. Webster—Surgeon in Chief, Royal Victoria Hospital, Montreal; Dr. J. O. Metcalfe, Boston Lying in Hospital, and Peter Bent, Brigham Hospital; Dr. M. Roth, Department of Psychological Medicine, Durham University; Dr. R. F. Farquharson, Professor of Medicine, University of Toronto; Dr. M. L. Barr, of London, and Dr. R. Haist and Dr. W. Campbell, of Toronto, here to attend meetings of the Royal Society of Canada; Dr. Walter Bierring of Des Moines, Iowa, President of A.O.A.; Dr. Clarence Routley, of Toronto, Canadian Director of A.O.A.; Dean J. W. Macleod, Faculty of Medicine, University of Saskatchewan.

Two further additions to the Medical Faculty program should be mentioned at this time.

1. The approval of a plan whereby students between their third and fourth years may take a voluntary preceptorship with a General Practitioner in the Province. This plan is dependent upon the cooperation of the student body and the College of General Practice (Alberta Division), with the Dean's Office acting in a purely advisory capacity.
2. A new program in Medical Laboratory Science, to be taken by individuals who have completed their senior matriculation, was started in 1958. By this plan, which has the active support of the Department of Health of the Province of Alberta, students are trained for positions in hospital laboratories in Alberta and may receive the degree of B.Sc. in Medical Laboratory Science.

It is with extreme regret that I must add that this will be the last Dean's report that I will be presenting to you. I could not leave the office of the Dean of Medicine without giving a special word of thanks to all those on the teaching staff of this faculty. They have always given the fullest cooperation in every way and, despite some personal misgivings, have undertaken the increased teaching that has been made necessary by the complete revision of the curriculum. Particularly I should like to thank the over 170 part time teachers who, with very little remuneration, have devoted much time to

teaching medical students. That we have been able to change over to small group teaching on a major scale is in no small part due to their unselfish efforts.

In the eleven years that I have served as Dean I have seen a major expansion in the Faculty of Medicine; new wings have been added to the University Hospital; a building for Provincial Laboratory of Public Health has been erected and then expanded; the Medical Building itself is now in the process of receiving a major addition. In keeping with this physical expansion the staff has also expanded from 106 in 1948 (14 of these were full time) to 229 in 1959, 50 of whom are full time or geographic full time. There has been a great increase in the research carried out in the departments and a corresponding increase in the grants-in-aid of research coming in to this Faculty. In all these matters I have always received unfailing support from the University administration and to them I would like to express my sincere thanks.

Report of Professor McClure, Director of the School of Nursing

With the appointment of Miss Margaret Madden as full-time lecturer in Obstetrics, it is now possible to offer the course in Advanced Practical Obstetrics twice a year. Miss Shirley Stinson who completed her work toward the degree of Master of Nursing Administration (Minnesota) joined the staff in September. The total enrolment of the School increased from 156 to 232. Of these, 45 registered as part-time students.

The School of Nursing is anxious to continue to serve the profession by contributing toward the improvement of nursing education in Alberta. For the first time, two of the regular courses, N.Ed. 37 (Hospital Nursing Service) and N.Ed. 38 (Administration in Schools of Nursing) were taught at special late afternoon sessions so that nurses employed in city hospitals might take advantage of these courses. The response was gratifying and indicates an interest on the part of the nurses to increase their knowledge and keep up with current trends in nursing.

Two special short courses were organized in co-operation with the Department of Extension and the University Hospital. During February and March, Institutes on Operating Room Nursing were held in Edmonton and Calgary. A total of 65 nurses from all parts of the Province attended. The Provincial Department of Public Health made funds available to bring Miss Mary V. Schewendeman, Nurse Consultant of the American Cyanamide Company, to conduct the institutes. Another grant from the Provincial Department of Public Health will make possible two six week courses on the Care of Premature Infants.

In our teaching programme, it is necessary to make use of various health and community facilities for practice teaching and field work. In order to reciprocate for these services, members of the staff have given assistance and consultation to the following agencies: City of Edmonton—Health Department, Indian Health Services, Alberta Civil Defence, Provincial Department of Public Health, Alberta Red Cross Association, School for Nursing Aides, Sub-Committee on Nursing Education of the Alberta Association of Registered Nurses, Council of Community Services—Rehabilitation study Committee, Misericordia Hospital Creche.

Miss Stinson was responsible for conducting a course of instruction for I.O.D.E. camp counsellors as well as a course in Home Nursing for Farm Young People's Week.

Members of the staff have also taken an active part in professional associations. Miss McMillan acted as Chairman of the Programme Committee for the Annual Convention of the Alberta Association of Registered Nurses in May. Miss McClure, Chairman of the Western Region of the Canadian Conference of University Schools of Nursing, was in charge of arrangements for the June meeting which was held in conjunction with the meetings of the Learned Societies in Saskatoon. At this meeting, Miss Margaret Campbell presented a paper on "Why Statistics?" (the value of including a course in Statistics in University Schools of Nursing). Miss McMillan attended the meeting of the National League for Nursing in Philadelphia. As a member of the executive council, of the Canadian Public Health Association, Miss McClure attended the annual meeting of that Association in Montreal.

The increased enrolment in the School and the enthusiasm and diligence of all staff members is encouraging. We are most appreciative of the continued support and co-operation received from the hospitals, the Department of Public Health, the Faculty of Medicine and other departments of the University.

Report of Miss M. E. Schumacher, B.S., M.A., R.N., Adviser to Schools of Nursing

It is my privilege to present the first report of the Adviser to Schools of Nursing in Alberta.

The plans to have a full-time Adviser to Schools of Nursing in Alberta became a reality on April 1, 1958. The Adviser is responsible to the Committee on Nursing Education, which in turn is responsible to General Faculty Council. Two of the broad functions outlined for this post are, one, to visit and to act in an advisory capacity to the twelve Schools of Nursing and their affiliating agencies in the province; visits also include inspection to ascertain that Schools are meeting the Regulations Governing Schools of Nursing for the province. The second function is to participate in projects or studies for the purpose of maintaining and improving the standards of nursing in Alberta.

During the past year the following visits were made:

1. Number of Schools visited for purpose of orientation	12
2. Number of Affiliating Agencies visited for purpose of orientation	8
3. Number of Schools visited for purpose of evaluation	11
4. Number of Schools visited for other reasons	4
Total visits	35

Reports were completed on the eleven Schools of Nursing which were visited for the purpose of evaluation. These reports were submitted to the President of the University and subsequently sent to the Schools.

The main project of the winter was to revise the Regulations Governing Schools of Nursing. This has been a joint effort of the Alberta Association of Registered Nurses and of the Committee on Nursing Education. This endeavor will be completed in the fall.

Other activities in which the Adviser participated during the year included:

1. The Alberta Association of Registered Nurses Convention in 1958.
2. The convention of Associated Hospitals of Alberta. A paper was presented on the functions and activities of the Adviser to Schools of Nursing. This paper was later published. Schumacher, Marguerite E.,

"The Adviser to Schools of Nursing", *The Canadian Nurse*, 55:4, April 1959, pp. 332-334.

3. Three lectures on the topic of "Nursing Education in Alberta" were given to nursing students.
4. An address was given at the Capping Exercises of one of the Schools of Nursing.
5. The Florence Nightingale Pledge was taken with the Graduating Class of one of the Schools of Nursing.
6. Attendance at a workshop of the Nursing Education Committee of the Alberta Association of Registered Nurses.
7. Participation in two conferences of Directors of Nursing and Associate Directors of Nursing Education for purpose of revising Regulations Governing Schools of Nursing. These conferences were called by the University.
8. Acted as recorder for Canadian Conference of University Schools of Nursing (Western Region).
9. Attendance at the National League for Nursing Convention held in Philadelphia, 1959.
10. An observation tour of four days with the Inspector to Schools of Nursing in Ontario.
11. Participation on the Committee and in the program for Recruitment of students to Schools of Nursing.
12. Acted as a member of the board of the Central Volunteer Bureau.

Report of Professor J. R. Fowler, Director of the School of Physiotherapy

In the fall of 1958 the School of Physiotherapy graduated its third class of students. There were fourteen successful graduands, who attended a special convocation in the Students' Union Building in October, 1958. The official University party consisted of the Chancellor of the University Dr. L. Y. Cairns—who presented the diplomas; Vice-President and now President of the University Dr. W. H. Johns; the Dean of Medicine Dr. John Scott; Dr. S. Greenhill, Director of the School of Hygiene—who gave the convocation address; Assistant Professor Miss Nancy Rendell; the Registrar Mr. Cairns, and the Director of the School Dr. J. R. Fowler.

Miss Donna Mae Jackson received the Canadian Physiotherapy Association book prize in recognition of the highest standing in the class in final year.

On Varsity Guest Week-end both first and second year students put on a very educative and practical display for the visiting guests. These displays included various practical demonstrations for the re-education of muscles weakened through disease such as in poliomyelitis; an excellent educational film on "rehabilitation of the cerebral palsied child" was shown.

The graduating class this year have confirmed appointments as far east as Montreal, throughout the three prairie provinces and as far west as Vancouver. The Director is constantly receiving requests for Alberta graduates to work in small and large hospitals throughout Western Canada. It is evident once again that the demand for physiotherapists is ever increasing and it is anticipated that in the near future the University will establish a broader training programme for rehabilitation personnel.

Report of Dean M. J. Huston of the Faculty of Pharmacy

Academic

Enrolment in the Faculty was high due largely to the number of women selecting pharmacy. This is a trend that has been developing over several years but has sharply increased recently.

There is a marked shortage of pharmacists in Alberta and indeed throughout the country. However, it was necessary to impose a quota in the first year of the course because of limited accommodation. The enlarged facilities presently under construction will ameliorate this situation.

Two new awards have been made available: the Alberta Pharmaceutical Association Prize, consisting of registration with the Association, for the best thesis in Pharmacy 433 (33); and the Calgary and District Druggists' Bursary of \$250.00 for a first year student of outstanding merit from the southern part of the province.

Thirteen staff members and graduate students from the College of Pharmacy, University of Saskatchewan paid our campus a visit in March. Two days were spent in discussions of teaching and research.

Associate Professor Anderson returned from a year's sabbatical leave during which he pursued studies at the University of Washington towards the Ph.D. degree.

Dr. K. H. Palmer, a graduate of Nottingham University and of the University of Paris, was appointed to staff as Assistant Professor.

Extension and other Activities

The faculty was host to the Canadian Conference of Pharmaceutical Faculties and the Teachers' Conference and Research Conference held in conjunction with the meeting of the Canadian Pharmaceutical Association in Edmonton in August.

Bulletins on recent advances in pharmacy were prepared in cooperation with the Alberta Pharmaceutical Association and distributed to all practising pharmacists in the province.

A series of refresher course lecturers was presented at Edmonton, Red Deer, Calgary, Medicine Hat and Lethbridge. Approximately 250 pharmacists attended.

Dr. Riedel was elected chairman of the Canadian Conference of Pharmaceutical Faculties and continued to serve as Chairman of the Teachers' Conference of that organization. He acted as an abstractor for the Physiology, Biochemistry and Pharmacology section of *Excerpta Medica* and continued as Commanding Officer of the University Reserve Squadron. He was Secretary of the Association of the Teaching Staff, University of Alberta.

Dr. Murray continued as Editor of the Bulletin of the Canadian Conference of Pharmaceutical Faculties and as a member of the Poison Control Advisory Committee of the Provincial Department of Public Health. He served as a Cubmaster and as second vice-president of the Edmonton Council of Home and School Association. He acted as captain in the C.O.T.C. Dr. Murray has accepted the position of Director of the School of Pharmacy at the University of Manitoba and will be greatly missed by his colleagues at Alberta.

Dr. Huston continued as Editor of the Scientific Section of the Canadian Pharmaceutical Journal and as a member of the Editorial Advisory Board.

Staff members presented papers to professional societies, service clubs and similar groups as follows: Dr. Riedel 7, Dr. Murray 7, Dr. Huston 12.

Research

Mr. K. M. James continued studies towards the Ph.D. degree and two students were awarded M.Sc. degrees.

Dr. Riedel undertook isotope studies on the effect of various hormones on zinc metabolism.

Dr. Murray undertook further investigations on the effects of antihypertensive drugs on experimental hypertension in rats. During the summer he carried out research work for the Defence Research Board at Suffield Experimental Station.

Dr. Huston continued investigations on the effects of drugs on the tissue respiration of rats. He organized and acted as chairman of the research meetings of the Canadian Conference of Pharmaceutical Faculties.

Dr. Palmer undertook a phytochemical investigation of a number of plants.

Mr. Anderson began an analysis of Alberta bentonites.

Other problems being investigated included: response of alloxan diabetic rats to barbiturates; formulation of barium sulphate suspensions; determination of iodine value by polarography; assays of tranquilizing drugs; effect of oxygen inhalation on normal and hypertensive rats; absorption of various drugs from the isolated gut; arsenic and lead tests on commercial tobaccos; effect of drugs on experimental cirrhosis.

Report of Professor M. L. Van Vliet, Director of the School of Physical Education

Perhaps the most significant development in Physical Education during the 1958-59 Academic Session has been the announcement by the Provincial Government and the Board of Governors of the University that a new Physical Education Building would be erected on the campus. This building, which is well underway in its construction, will greatly enhance the potential contributions of the School of Physical Education. Facilities include a swimming pool, ice arena, three lecture rooms, a weight training room, two handball courts, an individual exercise room, a remedial and corrective room, two gymnasias, a tumbling and apparatus room, a rhythmic room, offices, dressing and locker rooms, a wrestling room and sundry storage and equipment rooms. The University, the School of Physical Education, and future students are greatly indebted to the Provincial Government, the Students' Union, the Alumni Association and the contributors to the Christian and Winslow Hamilton Memorial fund for making this new structure possible.

Staff

Three new staff members were added to the School in Edmonton and one was added to Calgary. They are Miss Audrey Carson, Clare Drake, Murray Smith and Donald Macintosh.

Registration (See Table IX)

The following numbers of students were registered in the Service Program: Women (1st year, required), 253; Men (1st year, required), 771.

Extension Services

In addition to the usual clinics, talks, demonstrations and participation on provincial and national boards and committees, members of the staff have been active through executive positions in the following: Canadian Association

for Health, Physical Education and Recreation; Alberta Recreation Board; Parks and Recreation Association of Canada; The Red Cross Society; St. John Ambulance; Alberta Amateur Basketball Association; Young Men's Christian Association; Alberta Basketball Officials' Association; Alberta Schools Athletic Association; Western Canadian Intercollegiate Athletic Union.

Intramural Sports

The two programs for men and women continue to operate with maximum use of the current limited facilities.

Women	1957-58	1958-59
Number of Sports	10	10
Number of Teams	72	77
Number of Games Played	268	255
Number of Participants	920	829
Men		
Number of Sports	12	11
Number of Teams	161	173
Number of Games Played	732	980
Number of Participants	2530	2580

The Intramural Program will be without turfed playing fields for at least one more year or until the completion of the landscaping around the new building.

Intercollegiate Athletics

Members of the Physical Education staff direct, supervise or coach the following teams and clubs:

Women: Volleyball, Swimming, Golf, Basketball;

Men: Cross Country, Hockey, Volleyball, Basketball, Golf, Swimming, football.

Western Intercollegiate Championships were won over the past year as follows:

Men: The Rawson Trophy—Wrestling; The Rigby Trophy—Basketball; The P. S. Warren Trophy—Cross Country.

Women: Cecil E. Race Trophy—Basketball; Sam Landa Trophy—Volleyball; Felstad Memorial Trophy—Swimming; C. R. Spooner Trophy—Curling; Proctor Memorial Trophy—Golf.

Report of Dr. A. L. Doucette, Director, University of Alberta in Calgary

1. General Items

(a) Student Enrolment

We have experienced the beginning of a marked rise in student enrolment. The overall percentage increase in the different Faculties in Calgary is 24% higher than it was during the last academic year. This is a sort of advance notice of what the future probably holds. Not only do we have immediate problems in providing classroom space for increasing enrolment in 1959-60 prior to our occupation of the new site, but we are having to handle such increase without any additional plant space. As a result of increased student enrolment one senses the need for facing up to the problem of finding the staff to meet the needs of the next academic year and of the academic years to come. One senses the need of thinking in terms of five-year periods of planning rather than for one immediate year just ahead. The new buildings on

the north-west site along the Banff Trail will no doubt be filled as soon as they are built. When the new site begins to be developed there will be a new pattern evolving which will meet the tremendous issues of increased student enrolment in the area of higher education. It is interesting to note that in regard to student enrolment in the various Faculties statistical figures are significant. In the Faculty of Education in the one-year program there was a reduction of 10% over the previous year, this being the first drop in enrolment since the year 1954-55. At the same time there was a large increase in the Bachelor of Education degree programme for teacher training represented by an increased enrolment of 71%. It is interesting to observe that a good number of students are enrolling in the secondary route programme which prepares for high school teaching. We are gratified this year to find about 19 students in the Bachelor of Education degree programme following a Bachelor of Arts or equivalent degree achievement. These students will, of course, be absorbed largely in the senior high schools of the province.

The Arts and Science Faculty experienced an increase of 44% over its previous year's enrolment and in Engineering there was an increase of 21%. There were very significant increases in the Evening Division Programme (courses for credit) and also among the partial students in Education and in Arts and Science. There are nearly 700 students being served in the full-time day enrolment programme and in the Evening Credit and partial student enrolment programme. If we add to this the students enrolled in the Extension Courses, which are on a non-credit basis and which take place in the evenings, the University of Alberta in Calgary is servicing between 1,500 and 1,600 students.

(b) Grounds and Premises

We continue to share the grounds and premises with the Institute of Technology and Art, with University students to the west of the building and the Institute students to the east. Car parking areas are completely filled and parking is definitely at a premium.

We have had to convert the men's smoking lounge into a classroom but have been able to retain the ladies' Wauneita lounge for social purposes and for general staff meetings.

(c) Closing Exercises

The Closing Exercises were held on April 11th, 1959 in the Southern Alberta Jubilee Auditorium and some 2,000 people attended. The customary noon luncheon was held in the basement of the auditorium and a tea, open to the public, was held in the basement after the Exercises were concluded. The Exercises were under the chairmanship of Chancellor L. Y. Cairns and visiting officials from Edmonton included His Honour Lieutenant Governor J. J. Bowlen, President Walter Johns who gave the main address on higher education today; other visitors included the Dean of Arts and Science, Dr. D. E. Smith, the Dean of the Faculty of Education, Dr. H. T. Coutts, Dr. Govier, representing the Faculty of Engineering from Edmonton, and the Honorable A. O. Aalborg.

(d) Open House

We continue to postpone the holding of Open House until the new premises are opened on the north-west site along the Banff Trail.

(e) Radio talks

Several panels of the students and staff have contributed to radio publicity again as was the case last year and some appeared on television.

(f) *Teachers' Convention*

The staff of the Faculty of Education again assisted here and there at Alberta teachers' convention in the southern part of the province.

(g) *Career Days*

Dr. J. G. Woodsworth was particularly generous with his time in assisting with career days in the southern part of the province. Members of Arts and Science, Education, and Engineering also assisted with career days in the high schools in the city of Calgary.

(h) *Western Canada Conference on Teacher Education*

This Conference continues to operate under an annual convention which is a very worthwhile programme indeed. The Conference will be held in May in Winnipeg with the University of Manitoba Faculty of Education acting as hosts. Dr. T. G. Finn and Dr. A. L. Doucette will be the official delegates from the University of Alberta in Calgary.

(i) *World University Service*

The Treasure Van came to us in October and the amount of money raised was the second largest sum in any year since the Treasure Van started coming to Calgary.

(j) *Other Conferences*

The Conference of Learned Societies is to be held in Saskatoon in June and will be attended by Dr. T. G. Finn and Dr. A. L. Doucette.

It is planned to send Mr. S. A. Lindstedt to the Canadian Education Association conference in September, 1959 where he will render a paper on retarded children. Dr. T. G. Finn will serve as a member of a panel at this same convention on the subject of history.

2. *Special Reports*

(a) *Faculty of Arts and Science*

As indicated in an early part of this report the enrolment in Arts and Science increased around some 25% in 1958-59. The total staff was increased by 7 members with appointments in Physics, Chemistry, Modern Languages, Geography, and Geology.

In research, Professor A. R. Prince continues his study of the lichens of Alberta. Dr. Cyril Challice took part in a joint paper delivered to the Biophysical Society at Pittsburgh. The title of the paper was *Development of Discs, Filaments, and Crosstriations in Heart Muscle*. Another paper by Dr. Challice, written in conjunction with G. A. Edwards, was published in *Experimental Cell Research*. Dr. Brian Wilson's "A Study of Mu-mesons" was published in *The Canadian Journal of Physics*, January, 1959. In the summer of 1958, Professor A. Winspear spent seven weeks on a lecture tour of England which was sponsored by the Commonwealth Institute. The title of Professor Winspear's lecture was "By Tanker up the British Columbia Coast in the Wake of Captain Vancouver". While in England, Professor Winspear talked on Lucretius for the BBC. Professor Frank Anton recently completed for the Federal Government his study on "Government Supervised Strike Vote Legislation" and in the past years gave two talks over the CBC on Industrial Relations.

(b) *Faculty of Education*

The numbers in the Junior Elementary programme decreased by about

twenty students. In the Standard Elementary programme only two of the five students from the previous year took their second year in Calgary but those entering the first year increased to 22. Major increase was apparent in the Standard Secondary route moving from 40 to 53, and there were 13 students registered in the first year Bachelor of Education, Industrial Arts programme, and all time record.

The most startling change came in the Bachelor of Education after Undergraduate Degrees, which in the past has never been more than five students. During 1958-59 there were 19 such students registered in Calgary.

There were no new staff members appointed during the 1958-59 year nor any on leave of absence. During the 1958-59 academic session, Mr. S. A. Lindstedt continued to work as Survey Analyst to the Royal Commission on Education chaired by Senator Cameron.

The general manager of the Ryerson Press announced officially in the morning papers of Toronto on Saturday, March 14th, 1959 and by radio at 10:00 p.m. Friday, March 13th, 1959 that the *Ryerson Fiction Award* for 1959 had been won by Arthur G. Storey, Associate Professor of the University of Alberta, Calgary, for his novel *Prairie Harvest*.

(c) *Faculty of Engineering*

During the 1958-59 academic year first year Engineering is being taught for the second time at the University of Alberta in Calgary. The initial enrolment consisted of 75 full-time students and one part-time student. Of these, 4 have withdrawn, leaving a present enrolment of 72.

These students are taught by two full-time Engineering instructors, with courses in mathematics, physics, chemistry, and physical education, being given by the respective departments in Arts and Science. Again, this year the Engineering Faculty is enjoying excellent co-operation from all instructors and departments.

Early in the year the illness of a member of the Mathematics Department necessitated the taking over of his courses by an Engineering instructor. Mr. Becker, of Banff, came in to take the engineering classes given by this instructor.

It appears that there is a growing demand for second year Engineering courses in Calgary and it is hoped that these may be offered when the University transfers to the new site.

It may be of interest to know that half of the 1957-58 first year Engineering class of 55 students obtained a clear pass on final examinations. Seven students required to withdraw from Engineering for at least one year. Several others transferred to other fields or Universities. However, the large majority of those with a clear pass and of those writing supplemental examinations have gone to Edmonton and are taking second year Engineering there.

(d) *Student Advisory Services*

The duties of the Counsellor of the Student Advisory Services in Calgary, have not changed appreciably from those indicated in previous reports. However, the volume of "business" has increased (with enrolment and with greater student awareness—University and high school—of the facilities of this University service) to the point where a full-time stenographer-receptionist is essential for the adequate operation of such a service. During 1958-59 the efficiency of Student Advisory Services in Calgary has suffered as a result of

the heavy administrative-teaching-counselling duties carried by the person in charge.

(e) *Library* (see also the report of the Chief Librarian)

The librarian reports that every area of the library showed an increase in activity, and the problem of space looms large—not only space for the new books acquired, but study space for the students.

The library was serviced by a full time staff of three—one professional, Miss Dorothy E. Ryder, and two library assistants, Mrs. Emily O'Sullivan and Miss Betty Gilbert. Three student assistants were employed for a total of 375 hours. For the work of reclassification during the four summer months it was necessary to employ one temporary clerk typist.

The two most important incidents during the year were (a) the reclassification of one half of the library holdings to the Library of Congress Classification System, and (b) the increased responsibility given to the Library Committee which now acts in an advisory capacity to the Librarian in the allocation of book funds to the departments.

During the year, 832 books were ordered, and the number of gifts received was approximately 540 volumes. Dr. V. E. Graham donated 30 volumes, Mr. Charles W. Matheson gave the Library 150 volumes to be called the William Winfield Matheson Memorial Collection, 105 volumes were received from the Carnegie Corporation of New York, the Drama Society, University of Alberta in Calgary, donated 88 volumes of plays, and the Rutherford Library has given about 120 volumes, 68 of which were duplicates from the Rutherford Canadiana Collection.

The book collection now numbers 21,000 volumes, and there are 192 periodicals received regularly in the Library.

(f) *Extension activities*

The University of Alberta in Calgary again provided liaison assistance to the Department of Extension for its evening course programme on the Calgary campus. The service rendered consisted of handling enquiries, mailing lists, registration fees, classroom arrangements, textbooks, and so on.

Ten classrooms (an increase of four over the previous session) were provided in the Education Building, with janitor services arranged by the Director's secretary, Mrs. Haine. In addition, the University placed its audio-visual equipment at the disposal of Extension course lecturers.

It will be seen from the following figures that the Extension Department increased its activities on this campus by more than 50% this year:

—a total of 704 students attended 26 different courses on the campus as compared to 234 registered in 9 courses a year ago.

—the sum of \$6,633.50 was collected in fees here, as compared to \$2,382.00 last year.

—textbook sales this year amounted to \$186.50 an increase of \$124.00.

—in addition to the 704 regular students, there were 121 attending single lectures in the Science course.

As well as the courses held on this campus there were 5 special courses sponsored by the Extension Department in conjunction with local groups in industry, and held at selected points in the city. Registration totalled 394. This office handled enquiries and registrations for one of these, namely "Managing Investments".

(g) *Report of the Provost, Dr. J. D. Aikenhead*

Dr. Aikenhead advises that his predecessor, Dr. A. A. Gib, gave him valuable counsel and that the provost files up to August 31st, 1958, when he took over the provost work, were of definite assistance to him. He reports further that he has received invaluable support from Drs. Doucette, Finn, and Guy, Mr. H. R. McArthur, and Mr. A. A. Day, the latter being President of the Students' Union. It is my own feeling that the full staff and student body have contributed generously toward a worthwhile year for the students.

The Provost reports that toward the end of "Queen Week" last fall there was a minor disturbance related to practice-teaching. This was effectively dealt with by the Students' Discipline Committee and cleared up to the total satisfaction of the Calgary administration.

Special words of praise go forward from the Provost to Mr. Goodwin and the members of his Physical Education Department, also to Mr. Smith, of the Music Department, and all persons who have duties to perform as staff representatives in extra-curricular programmes carried on students. The campus would be indeed drab without games, drama, and music. The persons connected with the various organizations work long hours to build campus spirit. Student representatives deal with their colleagues in such a way as to exercise control over discipline problems. The additional number of engineers, along with the increase in arts and science students, brings about a fine co-educational spirit in social activities. A few years ago when Education was the only Faculty on campus there existed a marked imbalance in this respect. The foregoing factors should continue to build a strong student body in the future.

(h) *School of Physical Education—University of Alberta in Calgary*

The intra-mural athletic and recreational programme was revised so that all activities had scores allotted which were used to determine the overall Faculty winner. Each activity was organized on the basis of the Faculty but efforts were made to have every student participate in one or more sports. Included in this arrangement were volleyball, basketball, badminton, curling, and tumbling for both men and women, as well as hockey and football for men. The space requirements presented a severe handicap but despite this, approximately 80% of the students took an active part in at least one organized activity.

The extra-mural programme included full affiliation in the Calgary Inter-collegiate Athletic Association which conducted leagues in men and women's basketball, volleyball, curling, and badminton, as well as hockey for the men. A few exhibition games and tournament participation along with the Education Undergraduate Society sponsored sports' days with Edmonton, rounded out the programme. The men's and women's basketball teams took one additional out-of-town trip.

The addition of a male staff member in the person of Mr. Macintosh improved the calibre of all activities sponsored by the School of Physical Education as well as distributing the extra-curricular load of the other members. The tone of the entire School has improved by the presence of this staff member.

In all aspects of its work, including the professional courses, the service classes, and the intra-mural and extra-mural programmes, the members of the School of Physical Education have constantly sought to keep the philosophy of Education and Physical Education on a high level and tried never to lose

sight of the major objectives of citizenship and sportsmanship, coupled with the best possible academic standing of all students.

(i) *Bookstore Operations*

The lack of a regular bookstore on the campus here has, in past years, presented the authorities with many problems. As a result Mr. N. S. Howe, the manager of the University bookstore in Edmonton, paid a visit here in 1958 (March) and outlined a policy designed to facilitate the handling and sale of textbooks on this campus until such time as a permanent store could be opened on the new University site.

Increased staff and a higher student enrolment taxed our space last fall to the extent that we were unable to accommodate the Edmonton bookstore salesman, on our own premises, as we have done in the past. Through the courtesy of the officials of the Institute of Technology and Art the bookstore salesman was able to use the office annex as a temporary store, and he opened on September 22nd for a three-week period during which time the office annex building was not used by the Institute. This space was entirely satisfactory, and it is hoped that we may avail ourselves of it again next fall.

The bookstore was closed out on October 10th, with the bulk of the sales completed, and the remaining textbooks, booklets and pamphlets were turned over to the general office here, in accordance with the above-mentioned policy.

(j) *Report on Fee Operations, September 1958-59*

The fee operations were handled by Miss Wardle for a second year. The registration fees and other matters relating to the work of a Bursar's office for all Faculties at the University of Alberta in Calgary were handled in the Fee Office. Details of these operations are as follows:

(1) *Registration Fees*

A total of 727 students paid their own fees, amounting to \$82,326.00. Another 3 students had their full fees paid by the Department of Veterans' Affairs. (These figures show an increase of 164 students and \$24,200.50 in fees over the corresponding ones for the 1957-58 session. This is a substantial increase in fees, even when we take into consideration the fact that part of it is due to the rise in fee rates for all faculties this year.)

(2) *Annual Scholarships and Prize Monies*

After initial processing here, the final adjustments on the fees for winners of these awards were made by the Bursar's office, from the award monies, which the various donors left in trust in the Bursar's office.

Twenty-three students shared \$10,600 in scholarships and prizes administered by the Bursar.

(3) *Bursaries*

Bursary cheques have been distributed through this office.

(4) *Students' Assistance Act Loans and Grants*

Loan and Grant cheques were distributed to 16 students through this office.

(k) *Medical Services*

Again arrangements were made with the Calgary Associate Clinic to medically examine our University students. 431 were examined, of whom

approximately 50 had disabilities and were referred back to the Clinic for a further check.

During the year most of the students referred to the doctor for advice and treatment had respiratory infections or their complications. Most absenteeism was due to this.

In early December, Dr. Mullin from the Baker Memorial Sanitorium, gave the Mantoux test to 332 University students. 24 of these proved to be positive reactors, but X-rays showed none of them have to have active disease. In February, the mobile X-ray unit x-rayed 274 students and staff, none of whom had active tuberculosis.

General Summary

The Director of the University of Alberta in Calgary wishes to express his warm appreciation to all members of his staff for their generous co-operation and assistance in committee work, in supervising extra curricular activities, and in their general class preparation work. There is a fine spirit of co-operation here and it is felt that an excellent service is being rendered the students.

Student affairs are under the supervision and direction of the Director and the Provost, with the Provost acting as commander-in-chief. At the Calgary meeting of the Committee on Student Affairs and at the Edmonton meeting as well, informative reports were given on the extracurricular activities and responsibilities being handled by the Students' Councils in Edmonton and in Calgary. We have had a very fortunate year in Calgary with excellent direction by the President of the Students' Union, Mr. A. A. Day, and a very efficient Students' Council.

The student athletics awards and gold and silver pins for extra curricular merit were presented at Colour Night at the Palliser Hotel, at which time Professor L. E. Gads, of the Faculty of Engineering, was the guest speaker. This function was one of the most successful we have had in the history of the University since its beginning in 1945.

The Director wishes to express his own personal appreciation to the members of the administration in Edmonton in all departments, in all Faculties, and at all levels, from the President downward. He often feels that without this guidance his work would be much heavier indeed. My special gratitude goes to Dr. Stewart, who has resigned as President of the University, for his generosity and kindness throughout the years of his presidency, and for his interest and concern in the development of the University in Calgary. It is gratifying to know that Dr. Walter H. Johns, who succeeds President Stewart as top administrator at the University in Edmonton, shares the point of view displayed by his predecessor in office.

Regarding the planned developments for the buildings on the new site in north-west Calgary, I wish to express my thanks to Mr. G. W. Sadler and his staff in the Department of Works on the University campus, and also to the members of the Department of Public Works for the Provincial Government.

In closing I should like to make special reference to the Convocation and Sod-turning ceremony held in Calgary on November 1st, 1958 at which time the Hon. Fred C. Colborne, Minister without Portfolio, turned the first sod for the Arts-Education-Administration building on the north west site. The day was a memorable one and was a fitting conclusion to the Jubilee Week ceremonies held in Edmonton.

Report of Dr. J. W. Gilles, Director of the Summer Session

1. Registration and Attendance

The advance registration for the 1958 Summer reached a total of 2658. Of this number, 434 students failed to attend so that the actual enrolment amounted to 2224, an increase of 318 over that of the preceding year. To this number must be added another 110 students who were registered in the Emergency Teacher Training Program, and 75 in the Leadership Course for School Principals. Thus, the total number of students in actual attendance at the 1958 Summer Session was 2409 compared with 2149 last year. A summary of the attendance figures follows.

Summary of Attendance

Faculty	Male	Female	Total
Education	675	1091	1766
Arts and Science	119	47	166
Graduate Studies	109	40	149
Commerce	7	—	7
Household Economics	—	5	5
Nursing	—	1	1
Pharmacy	3	3	6
Engineering	5	—	5
Physical Education	2	—	2
Specials	46	71	117
	<hr/> 966	<hr/> 1258	<hr/> 2224
Emergency Teacher Training Program			
Second Session Students	66		
Third Session Students	44		
	<hr/>		110
Leadership Course for School Principals			75
			<hr/> 2409

Of the 2224 students who attended the regular Summer Session, approximately 79% were registered in the Faculty of Education, 8% in the Faculty of Arts and Science, and 7% in the Faculty of Graduate Studies. The remaining 6% were distributed through various schools and faculties or were registered as special students.

A summary of Summer Session enrolments for the last five years is given below.

Summer Session Enrolments, 1954-58

Year	Regular S.S. Course	Emergency T'cher Train'g Program	L'dership Course	Total
1954	1608	132	—	1740
1955	1674	160	—	1834
1956	1898	202	67	2167
1957	1906	178	65	2149
1958	2224	110	75	2409

It will be noticed that enrolments in regular Summer Session courses, which levelled off in 1957 after a marked increase in 1956, surged forward again in 1958.

2. Instructors

The Summer Session teaching staff, including that of the Emergency Teacher Training Program, was comprised of a total of 120 instructors, 5 more than in 1957. The following summary indicates the sources from which these instructors were drawn.

Classification of Instructors

Full-time Members of University Staff		60
Instructors from Affiliated Institutions		5
Guest Instructors from Alberta		
Department of Education	6	
School Systems	13	
Others	10	
	—	29
From Other Provinces		13
From U.S.A.		13
		—
		55
		—
		120

Visiting instructors from outside the Province included the following:

Miss Hariett Adams	Iowa State College, Ames
Dr. Walter S. Avis	Royal Military College, Kingston
Miss Grace Bentall	Portland Public Schools
Dr. J. Herbert Burgy	Bradley University, Peoria, Illinois
Miss Myrtle Carlson	Lower Columbia Junior College, Longview, Wash.
Dr. Truman Cheney	Portland State College
Dr. A. John Clarke	Brigham Young University, Provo, Utah
Mr. Lawrence Cluderay	Vancouver, B.C.
Miss Eleanor Dobkin	Brooklyn College, Brooklyn, New York
Mr. P. D. Drysdale	Memorial University of Newfoundland
Dr. Douglas C. Fraser	Waterloo College, Waterloo, Ontario
Mrs. Marcia Freeman	Cleveland High School, Portland
Dr. Frank E. Hartung	Wayne State University, Detroit
Mr. John A. Irving	Victoria College, University of Toronto
Miss Marjorie Jenkins	Macdonald College, Quebec
Dr. Martin Joos	University of Wisconsin, Madison
Mr. William Mackey	Laval University, Quebec City
Mr. Stanley Mealing	Carleton University, Ottawa
Dr. Marguerite Michaud	Teachers' College, Fredericton, N.B.
Dr. Miner T. Patton	Irvington School, Portland
Dr. Harry Pullen	Collegiate Institute Board of Ottawa
Dr. John A. Schulz	Oregon State System of Higher Education, Portland
Dr. Cairns K. Smith	Oregon State College, Corvallis
Miss E. Marie Spence	McGill University, Montreal
Dr. Samuel Strong	Carleton College, Northfield, Minnesota
Dr. J. P. Vinay	University of Montreal
Dr. Morris Zaslow	University of Toronto

3. Courses

A total of 102 credit courses, four more than last year, were offered in the 1958 Summer Session—94 for students in the regular session and 8 for those in the Emergency Teacher Training Program. Use was again made

of shops and classrooms at Victoria Composite High School for offering courses in Industrial Arts and Business Education.

In response to a request from the Canadian Linguistic Association the University conducted, as part of the regular Summer Session, a special Summer School of Linguistics. The following program of seven courses, all carrying University credit, was offered. Descriptive Linguistics, General Linguistics, Modern English Grammar, Linguistic Geography, Teaching English as a Second Language, History of the English Language, and Romance Philology. Eight instructors were required to provide the program. Three of these were members of the University's regular staff, and five were guest instructors, four coming from other Canadian universities and one from the University of Wisconsin. A total of approximately 190 course registrations were received in the seven-course program.

Sociology 60—Sociology of Group Relations—which was first offered in the 1957 Summer Session at the request of the Canadian Council of Christians and Jews (Western Division) was offered again in 1958.

The non-credit short course in educational leadership for school principals was given again at Concordia College during the 1958 Summer Session with 75 principals in attendance, nine of them women.

4. *Size of Summer Session Classes*

A definite attempt is made to control the size of Summer Session classes in certain courses by imposing registration quotas. The courses affected fall into two classes: Those where specialized equipment needed for teaching is available in limited quantities; and courses in the fields of History, English, and Elementary Education. Generous quotas, and a generous provision of courses in these areas provide assurance that students' needs are adequately met. In the cases of certain popular courses, especially where these are required courses in certain degree programs, multiple sections are provided.

The following table shows the distribution of classes according to size in the 1958 Summer Session.

Distribution of Classes According to Size

Size of Class or Section	Frequency
10 students or less	7
11 to 40 students	80
41 to 60 students	22
61 to 80 students	11
81 to 100 students	6
Over 100 students	—
Total	126

In the 1958 Summer Session, the average class load was 34 students per instructor as compared with 34 in 1957 and 35 in 1956.

5. *Special Events Program*

That part of the Special Events Program which was directly sponsored by the Summer Session consisted of four lectures and one musical program. The speakers in the lecture series and their topics were: Jean-Paul Vinay, Director, Department of Linguistics, University of Montreal, "Beyond the Sentence"; Francis S. Chase, Chairman, Department of Education, University

of Chicago, "The Response of the Schools to the Challenges of the Twentieth Century"; M. H. Scargill, Professor of English, University of Alberta, "Dictionary of Canadian English on Historical Principles"; and Martin Joos, Professor of German and Linguistics, University of Wisconsin, "Semology: A Linguistic Theory of Meaning". The musical program was the traditional Choral Concert presented by the combined music classes of the Summer Session under the direction of their instructors. Attendance at the lectures and at the Choral Concert was very good.

The Rutherford Library again sponsored a series of weekly recorded programs of music and plays which were presented in the music listening room.

A Service of Worship conducted by Dr. E. J. Thompson, Principal of St. Stephen's College, was held in Convocation Hall on Sunday, July 27.

6. *Concomitant Activities*

The following activities, although not directly sponsored by the Summer Session, were given official encouragement and administrative assistance.

Civil Defence Courses

These courses, sponsored by the Provincial Civil Defence Organization, were given between the hours of 3:00 and 6:00 p.m. Approximately 80 teachers completed the courses this summer as compared with 90 last year and 50 in 1956.

Tuberculin Skin Testing Program

Summer Session students again were given the opportunity to take the Tuberculin Skin Test in a testing program organized by Dr. G. R. Davison, Director of the Division of Tuberculosis Control, Department of Health. Those who reacted positively to the test were later given X-Ray examinations.

Banff School of Fine Arts Programs

The Summer Session cooperated actively with the Department of Extension to promote attendance at the Banff School's presentations of opera and ballet in the Jubilee Auditorium on August 11th and 12th.

Report of Dr. J. W. Gilles, Director of the Evening Credit Program

In 1958-59, Evening Credit Program courses were offered at eight centres, the same number as last year. However, two centres that were active in 1957-58 did not operate this year. Suitably qualified instructors could not be found for Medicine Hat. At Lethbridge, the Junior College offered three credit courses on an extension basis, thus making it unnecessary for the University to offer a course. Two new centres came into operation this year, Barrhead and Grande Prairie.

The most remarkable feature of this year's operations was the great increase in the number of students who registered. Although only five more courses were offered this year than last, two additional at Edmonton and three at Calgary, the total registration was 811 students as compared with 549 in 1957-58, an increase of approximately 48%.

The salient features of this year's Evening Credit Program as compared with last year's are set forth in the following summaries.

Centres, Courses and Registrations

Centre	Number of Courses Offered		Number of Students Registered	
	1957-58	1958-59	1957-58	1958-59
Edmonton	16	18	365	479
Calgary	2	5	60	131
Lethbridge	1	—	30	—
Medicine Hat	1	—	8	—
Red Deer	1	1	22	61
Camrose	1	1	20	36
Vegreville	1	1	29	41
Holden	1	1	15	31
Barrhead	—	1	—	20
Grande Prairie	—	1	—	12
	<hr/> 24	<hr/> 29	<hr/> 549	<hr/> 811

Classification of Students

	Registration	
	1957-58	1958-59
Faculty of Education	353	576
Faculty of Arts and Science	65	82
Faculty of Graduate Studies	38	32
School of Commerce	24	17
Other Faculties and Schools	7	5
Special Students	62	99
	<hr/> 549	<hr/> 811

The Faculty of Education continues to register the majority of students who take Evening Credit Program courses, 71% of the total registration this year as against 66% in 1957-58. Registrations in the Faculty of Arts and Science were about 10% of the total, about the same as last year. In spite of the great increase in total registrations, registrations in the Faculty of Graduate Studies declined slightly.

Teaching Staff

The Evening Credit Program employed a total of 31 instructors, 23 of whom were also members of the University's regular teaching staff. Instructors were obtained locally for the courses offered at Grande Prairie, Barrhead, and Red Deer. The classes at Camrose, Holden, and Vegreville were taught by instructors from Edmonton.

Report of Mr. B. B. Peel, University Librarian

The University Library is a service institution having as its functions the collecting and organizing of printed materials for the use of the university community, and the assisting of library users to find information needed in their study and research. In the first of these functions, collecting, the library is able to report an increase in book acquisitions of 11% over the previous year, or, if to this is added documents, an increase in acquisitions of 33% over 1957-58. The library received and processed 30,486 books, pamphlets, and documents.

As a description of the contribution of the library to the teaching and research program of the university, statistics have their limitations and can be used to measure only the more tangible contributions. However, the figures given below have significance particularly when compared with those of earlier years. In the three libraries of the university library system—Rutherford, Education, and Calgary—the attendance (student hours spent in the library) was 649,872, an increase of 13%, while the circulation of books was 282,188 volumes, or an increase of 10%. The circulation figure by no means represents the total use of books since it does not include the thousands of books read or consulted in reading rooms and stack areas. Whereas for several years attendance and use grew at a fairly constant rate, for the past two years these figures have bounded upward. This has been more noticeable in some areas of the library than in others.

The library staff directly participated in the interpretative function of the university by instructing students in effective methods of using library facilities and materials, and by answering thousands of reference questions. At the beginning of the regular session the library again gave instruction in library use to freshmen. This instruction was expanded in subject reading rooms; indeed in one reading room seventy hours of instruction were given by the librarian, with the aim of making every student conversant with the standard indexes and abstracts in his field of study. On an experimental basis library instructions was offered for the first time to students enrolled in the evening credit program.

The rapid expansion of the university has brought requests for an extension of certain library services and demands for larger quantities of library materials. In a single year requests from teaching staff for materials on interlibrary loan more than doubled, reflecting the increase in research on the campus. A larger enrolment makes necessary the purchase of numbers of duplicate copies of books for reading lists in junior courses. The acquisition policy in the past was geared to an undergraduate university, so that the sudden emergence of graduate programs in several disciplines has found the library wanting. Consequently, in the immediate future library acquisitions must be accelerated to keep pace with developments on a rapidly changing campus.

In response to requests for longer hours, three areas of the Rutherford Library—the Main Circulation Area, the Medical and the Applied Science Reading Rooms—were open on Saturday mornings throughout the summer. Commencing in December, for the duration of the winter session, these same areas of the Library were open for four hours on Sunday afternoons to staff and graduate students.

Staff

During the year there was one addition to and one resignation from the professional staff. In June Mr. Wilfrid Rudy joined the staff as a cataloguer, while in August Miss Loretta Millar left the circulation staff to take a library position with the local branch of Imperial Oil Ltd. For much of the year the library operated with two fewer professional staff than it had had for several years. With the increase in the service load the responsibilities of professional staff were extremely heavy.

Among the non-professional staff there were the usual changes.

Four staff members, namely the Chief Librarian and Misses Carrier, Fenton,

and Russell, attended the Canadian Library Association Conference in Quebec City in June.

Miss Norma Freifield is president of the Edmonton Branch of the Canadian Federation of University Women.

Mr. Donald Baird's bibliography of 20th century criticism of the English novel was published in March.

The Chief Librarian acted as one of the judges on the Governor-General's Awards Board.

Library Committee and Sub-Committee

The Library Committee met in October and discussed at some length several matters of library policy. The Library Sub-Committee met eight times during the year to advise the Librarian on operational problems. The personnel of the latter committee changed; Professors Thornton and Govier completed their term of office and were replaced by Professors Brodie and Parr. Late in the year Dr. Johns, who had for many years been a valuable member, and for the past year chairman, of the Sub-Committee, resigned after his appointment as chief administrative officer of the university.

Order Department

The Order Department, which is responsible for the purchase and preliminary processing of all materials coming into the library system, ordered 11,821 volumes, an increase of 2,233 volumes over 1957-58. Miss Lilian Leversedge reports that the total number of volumes received, including gifts, was 12,249; which represents an increase of 11% over the previous year. Perhaps a better indication of the acceleration in acquisitions is to compare it with the figure of two years ago when the department processed about 8,000 new volumes.

The work load in this department was very heavy, and when by late summer it was apparent that the flood of book requisitions could be expected to continue throughout the year, a fourth member was added to the staff. Multiple order forms, first introduced in April, eliminated some typing routines and thus probably saved the staff from being completely overwhelmed.

Subscriptions were placed for 1571 periodicals, 160 of them for the first time. One new periodical service cost \$450, while another was priced at \$150. The department searched and obtained 680 issues of 192 periodical titles, thus making it possible to bind broken volumes. In its efforts to round out runs of periodicals the library ordered 402 back volumes of 55 titles.

The total expenditure for books and periodicals was slightly under \$83,000, an increase of 12% over the expenditure for 1957-58. The reserve fund, from which many expensive special purchases of library materials were made over the years, was finally exhausted.

Cataloguing Department

The department geared its routines to handle the great increase in acquisitions to be catalogued, and in addition cleaned up some small collections of arrearage such as the Rutherford Canadian Collection. Mr. Donald Baird reports the accomplishments of his department statistically as 14,938 volumes catalogued, 13,188 books accessioned, 15,200 books lettered, and 83,374 cards typed. The total of volumes catalogued represents a staggering increase in output—28% more than the previous year. During the summer months the

department participated in the reclassification project currently in progress in Calgary.

The staff of three classifiers and three clericals was augmented during the year by the appointment of an additional clerical. The department was short one classifier during the first two and a half months of the year.

The installation of a continuous fluorescent light fixture above the master catalogue has eliminated eye strain for library staff and clientele when consulting the card trays. The temporary removal of the Buddha from the top of the catalogue during the installation brought about a clamour for his reinstatement from a group of students calling themselves the "Seekers of Light, the Sons of Gautama".

Reference Department

In the fulfilment of its primary function of giving library users guidance in the use of those keys to information—indexes, abstracts, bibliographies, and reference volumes such as encyclopedias—Miss Dorothy Hamilton and her staff are able to report that students are using these guides in larger numbers than ever before. Indeed, during library hours the index tables are in constant use. The reference service of the department included finding answers to 5,991 queries put by professors, students, and off-campus persons. About a quarter of these questions were for obscure information, entailing considerable research by the staff.

As stated earlier in this report, requests from teaching staff for inter-library loans more than doubled during the year. In addition to the 790 items borrowed or photostats secured, this library loaned 176 items to other libraries.

The circulation of books is only an incidental function of this department, but during the year 12,446 volumes were circulated, books of reference for use within the room, books from the special collections in the room circulated for home use.

With the expansion of the university's graduate program it is interesting to record that 73 theses were placed in our depository collection. Students and faculty consulted 333 items in the collection, while 41 requests were received from other institutions to borrow theses written at this university.

Now that the library is a partial depository for printed United Nations documents, the staff have at times been swamped with the processing of incoming documents. The publications received from United Nations and the Canadian and Alberta governments numbered 17,203 items.

The library's map collection, which has been built up over the last six years, now contains 14,720 sheet maps. This year 1,258 sheets were added. The processing of the maps continues with all maps classified and half of them catalogued. Each year more use is made of the collection.

The Periodical Reading Room houses 851 journals and 17 newspapers. Attendance remained constant, but circulation for home use dropped.

This year the library had 3,199 volumes bound as compared with 2,519 volumes in 1957-58. As the library receives larger numbers of periodicals and foreign books, the problem of delays in the binding of materials becomes more acute. The solution would seem to be for the library to operate its own bindery.

General Circulation Department

Miss Norma Freifield reports a busy year for her department, which is

in charge of the main delivery desk and stacks, browsing area, and the Reserve Reading Room. The circulation of books from the main desk was up 20% over last year, while in the Reserve Reading Room it was up 9%. The total number of books circulated from the two areas was 99,479. There was an increase in attendance in all areas, particularly in the stacks where attendance was one-third greater.

The circulation during Summer Session, 1958, was very heavy. Also, students enrolled in the Evening Division program borrowed 2,095 books from the Reserve Room during the session, a larger number than heretofore. In connection with the Evening Division program the department also sent out collections of books to those rural points where courses were offered. The number of extramural students using the library's parcel service dropped during the year; the department mailed out 493 volumes.

Law Library

This reading room, which serves the Faculty of Law, receives steady use by the students enrolled in the faculty, who spend a great deal of their time in the reading room. Attendance this year was 35,582, an increase of 9%. Circulation was 11,292, representing an increase of 50%. Since much of the collection consists of law reports which are not allowed to circulate out of the room, this increase in circulation is surprising. Mr. Denys Noden, the Law Librarian, explains that a large number of texts and monographs were added to the collection during the year, and that these have proved popular reading with students.

A total of 614 books, reports, statutes, and reference books were added to the collection.

Applied Science Reading Room

In the Applied Science Reading Room attendance reached the new peak of 85,202, which represents a 25% increase over the previous year. The circulation remained about the same as last year, but as all material is accessible to students for use in the room, the circulation figure is by no means an indication of the use of the collection.

Late in the year nine sections of double-faced wooden shelving were erected in the area to alleviate the shelving problem.

Mrs. Emma MacDonald continues to offer instruction to students enrolled in the faculties which use this reading room. The purpose of the instruction is to make students conversant with the literature of their disciplines. This bibliographic instruction has been much appreciated by teaching faculties and students.

Medical Reading Room

Miss Phyllis Russell continued in charge of this reading room, as Miss Giffen had obtained an extension of her leave of absence. The Medical Reading Room is open for the thirteen-hour day a month and a half longer at the beginning and end of the regular session than are other reading rooms in order to coincide with the longer term of the medical and dental faculties.

Instruction in the use of the reading room and its resources was given to classes of students at the beginning of the term.

The attendance in the Medical Reading Room for the year was 49,243, representing an increase of 18% over that for 1957-58. Circulation was also up with 19,563 books borrowed for home use and an additional 4,056 books

borrowed from the stack area for use within the reading room. The Medical Librarian reports a change in the type of material borrowed by medical students. It would seem that the students are encouraged to make case reports based on searches through indexes and periodicals. Consequently the circulation of bound and unbound journals has increased by 46%.

The medical staff and medical practitioners borrowed 6,288 items. Of these 115 volumes were sent to doctors residing outside of Edmonton.

Education Library

The Education Library is one of the busiest units of the library system. Miss Moira English reports that the year's total circulation of education books was 68,801 volumes, an increase in circulation of 16%. Attendance reached 75,817 which was an increase of 28%. The service load is subject to fluctuation from day to day and week to week during the term. With large education classes a single reading assignment can bring many students to the library in search of material.

Summer Session is the most hectic period of the year, when students make intensive use of the library for about four weeks. Last Summer Session 15,824 books were circulated.

The library has been attractively redecorated.

Calgary

The Calgary library is operated by a staff of three. The crowded condition in the library was alleviated late in the term when the Institute of Technology and Art moved its collection from the east end of the room, making an additional 420 square feet of space available. In October six three-foot sections of double-faced steel stacks were set up in the library. In addition some wooden shelving was added. By using every inch of available shelving it is expected the library can accommodate acquisitions until the move to new quarters a year hence.

The library added 1,232 volumes to its collection during the year. The total number of volumes is now nearly 22,000. The library subscribed to 35 new periodicals during the year, bringing the total number of periodical subscriptions up to 194.

The attendance was 66,245, an increase of 19% over the previous year. The circulation remained static at 27,000 volumes.

In preparation for the move to a new campus in 1960 the Calgary Library began reclassifying the collection in the summer of 1958. The decision to convert the classification to the Library of Congress scheme was taken in anticipation of the day when the library will contain a much greater store of books serving an expanded teaching program.

During the winter the Librarian, Miss Dorothy Ryder, drew up plans for the new library to be housed in the Administration and Education Building on the new campus.

Miscellaneous Activities

One cultural activity in the library of a non-reading nature is worthy of note, and that is the regular music programs held during the noon hour in the Music Listening Room. This year, under the enthusiastic supervision of Mrs. Marjorie Corah, daily attendance averaged over thirty.

and most appreciated portion of the programme. In this respect, considerable credit is due to Dr. D. L. C. Judge, who is the first Teaching Fellow in the department.

The graduate teaching programme has continued to expand and is now in its second year. This programme consists of a variety of teaching sessions such as seminars, graduate lectures, small group ward teaching providing approximately seven to ten hours of graduate instruction per week in addition to the regularly constituted rounds within the department. Candidates for Certification and Fellowship examinations in the Royal College in their final year of preparation are subjected to written and oral examinations to determine their level of competence and to assess their fitness to proceed with further training.

We wish to express the gratitude of the Faculty to Mr. and Mrs. Arthur Craig for the generosity in providing funds to purchase a number of essential texts for the Division of Endocrinology and Metabolism.

Department of Obstetrics and Gynaecology

Chairman, Professor J. Ross Vant

This year has been a productive one in the Department of Obstetrics and Gynaecology. The department has acquired two full time members, Dr. T. R. Nelson, Associate Professor, geographic full time, and Dr. W. F. Ferguson, Assistant Professor, full time. Dr. E. G. Tess Trueman has joined the staff as Teaching Fellow in Obstetrics and Gynaecology. In addition, the department has three members of the Graduate Training programme, who are proceeding to Certification in the specialty.

There have been no significant changes in the undergraduate teaching programme, but the "living in" programmes at the Royal Alexandra, the Misericordia, and the General Hospitals, under the supervision of Dr. Ferguson, have been remarkably successful. With the additions to the full time staff, it has been found possible to increase the scope and intensity of the teaching conferences held with the Resident staff during the past year.

The Department of Paediatrics

Chairman, Professor J. K. Martin

Dr. Brenda Devlin was appointed to the staff of the hospital in May. Dr. Neil Duncan spent the first 3 months of the year working with Dr. R. Fraser and his group in the field of cardiovascular disease on a full-time basis. The industriousness of the resident staff—Doctors Watkins, Birkbeck, Gauk and Rivas, has been much appreciated and has contributed greatly to patient care. Dr. E. J. Turner, as full-time Teaching Fellow in Paediatrics, has helped considerably with the teaching, and is engaged on a research project. The staff as a whole have contributed to nurses' lectures at the student and graduate level. The Course in Premature Nursing Care has been repeated twice in collaboration with the Department of Obstetrics.

The Department of Physiology and Pharmacology

Chairman, Professor J. W. Pearce

The past year has seen a consolidation of previous expansion of graduate teaching and research activities in this department, with some extension of undergraduate teaching. The most noteworthy change in the latter has been the provision of a full year of laboratory exercises in Physiology 361, with the

weekly period being given in two sections. Dr. W. H. Cottle has been largely responsible for the re-organization involved, which included expanding and re-writing the manual. There has been a noticeable improvement in the student response to the laboratory course. The single lecture programme, given this year to all students of elementary Physiology including those of the School of Physiotherapy, has been contributed to by all staff members in Physiology.

An advanced laboratory course on the graduate level has been offered for the first time, organized by Dr. C. Heath. Two other didactic graduate courses have been given as well as a departmental seminar, and some students are being supervised in Physiology 502 or Pharmacology 501 projects. The department now provides 10 graduate courses and is accredited to offer training for the Ph.D. degree. There are five graduate students in the department proceeding to the M.Sc. degree and two students graduated last fall.

All members of the department are actively engaged in one or more research projects. The coming year should see the fruition of a number of interesting studies which have been diligently attacked.

During the past year Dr. E. O. Hohn has been on sabbatical leave at the Worcester Foundation of Clark University undertaking study and research in the field of steroid biochemistry. The very real assistance of all the part-time academic staff is again gratefully acknowledged, with special appreciation to Dr. Merva K. Cottle, who has played an enthusiastic role in both graduate and undergraduate teaching as well as adding a neurophysiological facet to our research activities. The part-time staff has been increased by the addition of Mrs. C. Fuller, Mrs. C. Campbell, and Mrs. Joan Morrison. Two Teaching Fellows, Mr. J. V. Milligan and Miss Celia Yates, have been appointed during the past year.

The Department of Social and Preventive Medicine

Chairman, Professor S. Greenhill

The past year in this department has been devoted to re-organization and planning. This department's teaching programme is aimed at making the student aware of the interaction of preventive and curative medicine, and of the necessity for understanding the social, emotional, and economic factors underlying illness. It carries out this aim by providing medical undergraduates with experience in observing and managing the many factors, in addition to actual disease, which contribute to a patient's illness, and by providing the opportunity for the student to participate in research projects dealing with the broader aspects of health and disease.

In addition to a basic course in Public Health practice, students have been exposed to other topics in the broad field of social and preventive medicine—e.g. the changing pattern of disease, population trends and expansion, epidemiology of non-infectious disease, community health resources, occupational health, trends in morbidity, medical care programmes, and the like.

It is hoped that a family care or study programme may be implemented during the next academic year. This programme will introduce 3rd and 4th year students to the practice of comprehensive medicine. A team, made up of a 3rd and 4th year student, will be the "medical adviser" to a family or patient. During a two year period, a student will not only be exposed to episodic illness, but will become aware of the variety of factors that affect both health and disease.

Financial Assistance

Babysitting, student assistantship in the Rutherford and Education Libraries, and a few hours, now and then, in a drug store or a shop gave the extra financial assistance needed by a number of the students.

Extracurricular Activities

As expected, the number of these activities is growing rapidly, almost alarmingly, with the increase in student population, but the Scheduling Committee is handling major events with thoughtfulness and consideration and feels that when the new Physical Education Building is completed the problem of a time and place for each activity will not be nearly so great.

Dances, both informal and semi-formal, meetings of the Wauneita Society, of the recently-formed Student Wives' Club, gatherings with Mixed Chorus, and Sunday Musical Club Concerts were attended, in each case upon invitation.

The monthly meetings of the Panhellenic Society were attended in an advisory capacity and upon request of the fraternity women.

Meetings of the Graduating Class Committee held in the early spring, have been attended, also in an advisory capacity.

This year the concert of Mixed Chorus in Leduc was attended. Mrs. R. S. Eaton accompanied the group to Calgary and to Lacombe, and, when the Chorus goes on Spring Tour, April 30th to May 10th, she will again be with them.

The "Freshette Coffee Hours" continue to grow in numbers. This year about six hundred and ninety first-year women were invited in groups of twenty to twenty-five. The response to the invitations is still very good and the results all that one could wish.

Women Graduands

Women graduands in Engineering, Medicine, Dentistry, Pharmacy, Law, Commerce and in Honors B.A. and B.Sc. were entertained at tea in early March.

Faculty of Education

The monthly meetings of this faculty are still being attended at the request of the Dean.

The Infirmary and Hospital

As in the past, women students confined to the infirmary or to the University of Alberta Hospital were visited when possible.

Dr. Vant's Lectures

With the increase in the number of first-year women, Dr. Vant's lectures have outgrown the Education Auditorium so will be held this year in Convocation Hall. These lectures continue to be invaluable.

Recommendations

Recommendations for students seeking summer employment, permanent positions upon graduation or for scholarship applications, continue to take a great deal of office time during March and April.

Public Relations

During 1958-59 one broadcast over CKUA, addresses to high-school graduating classes, to high school students planning on continuing their studies, to church groups, business women's groups, Home and School Association, were given and, as well, several after-dinner speeches.

In Conclusion

No report of the Dean of Women would be complete without a word of appreciation for the good work done by the Executive of the Wauneita Society, whose President, Miss Ruth Buchanan and Secretary, Miss Anne Brodie, are worthy of very special commendation; of that done by the Students' Council, and the Executives of such groups as Musical Club, Mixed Chorus, Drama Society, Women's Athletic Association and Residence House Committees.

It is hard to evaluate the contribution of these groups to the entire student body.

Report of Professor A. J. Cook, Director of Student Advisory Service

With the rapid growth of the University, the past year saw serious consideration of administration and in particular of Student Advisory Services in the life and work of the University as a whole. The Faculty Committee on Student Advisory Services met during the summer of 1958 to review the status, function and staffing of the Services. The report of the Committee will serve as a valuable guide to the further development of Student Advisory Services in the busy years ahead.

Study Skills

The practice initiated two years ago of sending a letter to all new students immediately after the November tests was continued. The students were invited to participate in a series of study tutorials, one a week for three weeks. Over two hundred students responded. The appreciation of the students who attended was marked and the same plan will be used during the coming session. The students whose records were unsatisfactory at Christmas were invited to a single tutorial. These were held over a period of two weeks at the end of January.

The problem of transition from high school to university is one that needs greater study than it has received on the part of Canadian universities. We have begun to look into the possibility of using electronic equipment to enable us to make detailed analyses of the various factors affecting the success of the new student. There are, of course, other aspects of this problem which need not be detailed here. But we mean to make further exploration of this whole area.

Information for Prospective Students

The University is currently sponsoring a project which is being financed by the International Nickel Company of Canada to determine how better to inform the high school student in regard to the opportunities offered by the various Faculties and Schools of the University. A planning committee representative of the administration and including the members of the staff of Student Advisory Services is actively preparing for a Conference of High School Counsellors and University Representatives to be held June 20-24 on the University Campus. This Conference will give the Faculties and Schools an opportunity to present pertinent information about the University to the counsellors.

Student Aid

In September, 1958 the Provincial Cabinet set up a special committee to bring in recommendations which would insure that no deserving student in high schools of Alberta would be denied a university education because of

lack of financial resources. The University was represented on this Committee by the Assistant to the President, Mr. George Samuel and the Director.

The report of this Committee was submitted to the Cabinet in November, and as a result the Students Assistance Act has been revised and a broad programme of financial assistance has been initiated. One of the immediate results of this move is the appointment of a Student Aid Officer at the University. This will relieve the Director of responsibilities for student aid which have developed in the last several years.

The Services

It is worthy of note that the University Counselling and Placement Association meetings were held for the first time on the University Campus last June. Papers related to counselling were presented by Dean Douglas E. Smith who was one of the key note speakers for the Conference, by the Dean of Women, M. S. Simpson on residences, and by A. J. B. Hough who gave an interesting paper on predicting success of first year engineering students.

During the summer an exchange of staff was arranged with the University in Calgary with Miss Wilson taking over Dr. Woodsworth's work in Calgary for a week and vice-versa. This exchange proved very profitable to both Services.

Mr. Hough has continued with the Reading Training Programme for able students, and eighty students took advantage of this voluntary training.

The study of the provincial distribution of students writing Grade XII examinations and the numbers of such students entering the University has been continued by Miss Wilson, and has proved to be of great interest to the school superintendents. The Department of Geography has prepared excellent maps showing the distributions.

The career day program has again been extensive, some member of the Department being in the field through the period from late February until mid-May. Information for prospective students was furnished on two radio broadcasts called "Campus Preview" sent out over eight stations in April. Participation in another such program on CBX was arranged through the Supervisor of School Broadcasts.

Staff

The Director attended the Western Personnel Institute meetings in Pasadena in November; these were concerned with the look ahead at education and student personnel services.

As of April 1st, 1959 Associate Professor L. N. Wilson terminated her services with Student Advisory Services to assume full-time teaching duties in the Department of Psychology. She has been with Student Advisory Services since 1951 and had made a great contribution to the development of the Services. She will continue as a member of the Committee on Student Advisory Services. I am taking this opportunity to express my deep appreciation for the fine service she has rendered and for the wise counselling she has given hundreds of students.

Mr. D. C. Fair will receive his Master of Arts degree in Psychology at the Spring 1959 Convocation. His thesis concerns a study, from the view-point of counselling, of the California Personality Inventory.

It remains to acknowledge with pleasure the fine work of the counsellors here and in Calgary. I should like to record also my appreciation of the

spirit of understanding and co-operation shown by members of the Faculty and administration alike.

Report of Dr. J. F. Elliott, Director, Student Medical Services

The 1958-1959 term has been a very active one for the Student Medical Services. Increasing enrollment has resulted in a corresponding increase in medical examinations and treatment.

Dr. Adam Little has supervised the Infirmary services with his usual diligence. He has been ably assisted by Dr. A. M. Edwards. Two senior internes from the University Hospital have assisted with sick parades. Dr. M. M. Hutton has acted as consultant in Gynecology. Dr. K. Yonge and his staff have supplied psychiatric consultation services. Miss Revell and her staff have carried out their many duties in their usual capable manner.

Poliomyelitis vaccine has been available through Dr. M. Little of the City Health Department and many students have been immunized.

Tuberculin testing of freshman students has been continued with chest x-rays provided by Dr. Stephens and his staff at the Aberhart Hospital. B.C.G. vaccine has been given to Medical students and students in the School of Physiotherapy on their request.

The present Infirmary becomes more inadequate for efficient sick parade care as student population increases, and plans are being considered for a new Infirmary.

Statistics

	1958-59	1957-58
Doctors' Visits to the Infirmary	569	656
Dr. Elliott	20	83+ (Influenza)
Dr. Little	170	179
Dr. Edwards	163	179 (and Dr. Cantor)
Dr. Hutton	21	22
Interns	195	193
Doctors' Consultations	4,255	4,592
Daily Average	22	23
Visits to Infirmary Bed Patients by doctors	350	595 Not including influenza epidemic patients.
Daily Out-Patient Treatments and Consultations	15,146	15,903
Men	9,486	10,334
Women	5,660	5,569
Daily Average	55	59
Gynaecological patients treated	48	27
Psychiatric referrals	27	25

Summary of Infirmary Bed Patients

	No.	Hosp. Days	Ave. Stay	No.	Hosp. Days	Age. Stay
Men	83	257	3	112	366	3.2
Women	34	94	2.7	58	238	4.1
Total	117	351	2.8	170	604	3.6

Basal Metabolism Tests		32		33
Men	4		3	
Women	28		30	
Haemoglobin tests		56		43
White blood counts		16		20
Urinalysis		1,961		895
Cerumen removal		73		94
Penicillin—Patients treated		134		132
Doses given	467		444	
Autogenous Vaccine		9		—
B.C.G.				64
Betalin		2		2
Polio Vaccine—Persons		1,318		1,653
Doses given	1,721		2,512	
Prostigmine		1		—
Special Hay Fever Vaccine		6		8
Staph. Toxoid Vaccine		3		6
T.A.B.T. Vaccine		3		3
Tuberculin Tests		1,709		1,752
Smallpox Vaccinations		22		27

Students Treated in Hospitals

	Men	Women	Total	Men	Women	Total
University	64	28	92	59	17	76
Other	8	6	14	12	2	14
Total	72	34	106	71	19	90
University Hospital Days			745+			518+
Men		500+			374+	
Women		245+			144+	

Students' Medical Service Staff 1958-59

Director	Dr. J. F. Elliott
Infirmary Physician	Dr. A. S. Little
Assistant Physician	Dr. A. M. Edwards
Gynaecologist	Dr. Margaret Hutton
Psychologists	Dr. K. Yonge
	Dr. G. D. Carson
	Dr. W. E. Sigurdson
	Dr. W. Forster
Internes	Dr. Hugh Stephens
	Dr. M. K. Katayama

Infirmary Staff

Matron	Miss G. A. Revell, R.N.
Assistant	Mrs. J. H. Ward, R.N.
Relief Nurse	Mrs. Mary Corns, R.N. from Sept./58.
	Mrs. Ethel Taylor, R.N. April/58 only.
Nurses' Aid	Miss A. I. Folden
Cook	Mrs. Abigail Taylor
Housekeeper	Mrs. Emma Bird April only.
	Mrs. Dorothy Jones from Sept./58.

Report of Mr. Guy H. Vaughan, Radio Director

Broadcasting for the 1958-59 season was for the period October 1, 1958 to April 30, 1959, two weeks longer than the preceding year.

The same broadcasting hours as in the 1957-58 season were utilized, 6:45 to 8:00 p.m. Monday through Friday, and 8:00 to 9:00 p.m. on Saturdays. For the remainder of the year, programs of recorded music were broadcast one hour per day, six days per week.

The 30 Saturday evening music programs of the 1958-59 season were broadcast under the general title *My Saturday Evening Concert*. In this series, members of the University staff chose and commented on their programs, which elicited considerable interest.

Organ recitals which were broadcast twice monthly during 1957-58 were cut to one per month this year and were included in the regular Music Hour period instead of extending from 7:35 to 8:00 p.m. as previously. This was done in order to allow more time for talks, interviews etc.

In order to clear more consecutive time for the talks series, the Western Board of Music Recitals were also moved from the bi-monthly pattern of 1957-58 to a series of 12 weekly programs from January to March of 1959.

During the current season 122 15-minute programs of talks and interviews were aired. Of these regular series, *Science* had 39, *Social Science* 18, *Extension* 13, *Men and Letters* 22, and *Two on the Aisle* 21. The remainder were taken up with The University's Fiftieth Anniversary 2, *Education* 5, and

Your University 2.

Highlights of the 39 Science programs, were various series like *The Information System of the Body*, 5 programs dealing with the Nerves, Eyes, Ears, Brain and the body's chemical processes—*The Nature of Crystals*, latest developments and methods in crystallography—*Fungi and Moulds*, their application today—*Pin-pointing Pollen*, the importance of Pollen in our daily lives—*Learning from the Stars*, information derived from a scientific study of the stars—*The Tar-sands Atomic Blast*, speculation as to whether the blast would take place—*Opportunities in Modern Mathematics*, the many practical applications and fields in Mathematics—and *Problems of To-day's Physiologist*, the latest developments in physiological research.

In the Social Science programs, the Departments of History and Philosophy were responsible for the following noteworthy series—*Heresy Behind the Iron Curtain*, 4 programs—*Western and Eastern Democracy—a Paradox*, 2 programs—and *Religion and Art*, 5 programs.

In the Literature series, *Men and Letters*, in addition to reviews of current books and reassessments of books of long-standing, various staff members gave their views on books which influenced their lives in the series, *Books That Have Influenced Me*.

The program, *Two on the Aisle*, inaugurated last year, and offering critical opinion of professional music and drama in Edmonton, as well as noteworthy current movies, continued to find a ready audience.

For the first time this year, a new radio study program conducted in 10 consecutive weekly talks by Professor Grant Davy, Associate Professor of Political Economy, was attempted. The series, under the general title, *World Politics*, was designed to give listeners an essential background to an understanding of international politics and relations. The series, arranged by the Department of Extension, brought a good response.

In connection with the University's Fiftieth Anniversary, two 15-minute panel discussions, one for the humanities and one for science, each embodying highlights of the past 50 years, brought favourable response.

In addition to the above, during the month of April 1959, five 15-minute programs (three individual talks and two panel discussions) arranged by the Faculty of Education, were broadcast.

As is customary each year, two 15-minute programs dealing with matters of interest to prospective students, were also broadcast. These programs, under the general title, *Your University*, were arranged and aired by staff members of the Students' Advisory Services and will be forwarded to other stations in Alberta for re-broadcast.

During the visit of the Learned Societies in 1958, eight 15-minute talks and interviews were taped by various members of the Society for use during the fall of the 1958-59 season.

In the summer of 1958 also, the Radio Director went to Banff to record talks and interviews at the Banff School of Fine Arts. Nine 15-minute tapes were obtained, including a resume of activities by Senator Donald Cameron, Director of the School, and three panel discussions by members of the Music, Ballet and Painting Divisions.

The experiment successfully launched during 1957-58 of repeating some of the University's best talks and interviews of the regular evening series at 11 o'clock each morning over CKUA, was continued this year with equally gratifying results, thanks to the generous cooperation of the management of CKUA. Thirty nine programs were rebroadcast this year.

Station CFCW, Camrose, accepted forty of the University's regular evening 15-minute talks for rebroadcast during the spring and summer months. CFGP, Grande Prairie, and CHAT, Medicine Hat, also rebroadcast the ten talks on World Politics by Professor Grant Davy.

The Student Radio Society, with an active membership of thirty-five, broadcast a varied program of music, interviews and campus news on Saturdays from 5:00 to 6:00 p.m. under the direction of President John Vandermeulen.

Arthur Newman gave good service as chief announcer of Radio Service, as did Jack Downey and Ronald Pollock, who completed the staff of announcer-operators.

In the matter of advertising, a new approach was attempted during the current season. Ten thousand pamphlets in the University colours and covering the over-all programming schedule were distributed to Edmonton homes. The pamphlets, in addition to general program information, gave the University Radio Service address and phone number, with a suggestion to join the University's regular mailing list for program schedules.

From October 1958 to the end of April 1959 about 3000 program schedules were sent out on our regular mailing list twice per month, except in December, when mailing is once per month.

Report of Professor R. S. Eaton, of the Western Board of Music in Alberta

1. Statistics (Candidates and Fees):

Candidates	February	May	June	Total	Fees	(May and June)
Practical	241	—	1190	1431	\$1873.75	(February)
Theoretical	382	518	—	900	6834.70	
				<u>2331</u>	<u>8708.45</u>	

This shows an increase of 395 candidates over 1957 and an increase in fees of \$745.92.

2. *Revenue from the Sale of Theory Papers* (December 1, 1957, to November 30, 1958)—\$101.72. This shows an increase of \$24.22.

3. *Centres*

(a) Practical—February, 1958: Banff, Calgary, Edmonton, Lethbridge, Red Deer and Sundre. June, 1958: Banff, Blairmore, Bonnyville, Bowden, Calgary, Castor, Chauvin, Dawson Creek, Drumheller, Eaglesham, Edmonton, Girouxville, Glendon, Grande Prairie, Hythe, Innisfail, Lethbridge, Medicine Hat, McLennan, Peace River, Pincher Creek, Ponoka, Red Deer, St. Paul, Spirit River, Wetaskiwin.

(b) Theoretical—February, 1958: 36 centres. May, 1958: 43 centres.

4. *Examiners for Practical Examinations*

February: Mr. Glenn Nelson, Vancouver; Mrs. H. D. Sherry, Saskatoon; Mrs. D. Langmo, Mr. R. M. Pounder, Mr. Edgar Williams and Professor A. B. Crighton, Edmonton.

June: Mr. Georges Lindsay, Mtl.; Miss Jean Broadfoot, Wpg.; Mr. Lucien Needham, Wpg.; Mr. Smyth Humphreys, Vancouver; Mr. Lawrence Cluderay, Vancouver; Mr. Alan Smith, Miss Sandra Munn and Mr. Leonard Leacock of Calgary; Mrs. D. Langmo, Mrs. L. Upright, Mr. G. K. Greene and Mr. Robert Pounder of Edmonton.

5. *Diplomas Granted*

Spring Convocation—A. Mus. (Piano): Almo Eagleson, Lois Callaway, Marjorie McEwen, Evelyn Mondea and Evelyn Heath.

Fall Convocation—L. Mus. (Piano): Constance Channon Douglass. A. Mus. (Piano): Betty Lou Williams, Lynne Newcombe and Doris Munro.

6. *Broadcasting* (from October, 1957, to April, 1958)

The series of twice-monthly broadcasts by well-known teachers and musicians, illustrating the Western Board syllabus, commenced on October 17th with a violin recital by Marguerite Marzantowicz, accompanied by Arthur Crighton. This was followed on the 31st by a viola program given by Dorothea Langmo, accompanied by M. Marzantowicz.

In November, Mrs. Beulah Doney, pianist, and Miss Catherine Wendol, soprano, presented programs, with Robert Pounder accompanying Miss Wendol. There was only one recital in December, a trumpet broadcast given by Kenneth Hopkins, accompanied by Arthur Crighton.

Mrs. Jocelyn Pritchard, pianist, and Edgar Williams, violinist, gave the January recitals, Mr. Williams being accompanied by Arthur Crighton. In February, Miss Anne Burrows, pianist, and Bruce Pinkney, violinist, accompanied by Arthur Crighton, presented programs.

The March recitals were given by two pianists, Mrs. Lillian Upright and Miss Doreen Flesher and the first April concert was by another pianist, Miss Hope Hattersley. Ernest Dalwood ended the broadcast year with a fine clarinet recital, accompanied by Arthur Crighton.

7. *Recitals*

Again in 1958, five recitals of Western Board award winners were held throughout Alberta, the first being held in Red Deer, November 14. This was

followed by recitals in Calgary, Lethbridge, Edmonton and the last in Grande Prairie, December 5th. To Grande Prairie, parties travelled from as far away as Berwyn, usually returning home very late that night. The quality of performance by the young musicians at these concerts was most commendable particularly in Edmonton. Attendance was good and the audiences most enthusiastic. An added attraction in Red Deer was a group of pieces given by the new member of the Music Division, Thomas Rolston, violinist, with his wife, Isobel Moore, pianist. The following were guest artists: Dennis Ball of Edmonton—in Red Deer; Gary Hickmott of Edmonton—in Calgary; Betty Lou Williams of Calgary—in Lethbridge; Constance Douglass of Calgary—in Edmonton; and Lynne Newcombe of Edmonton—in Grande Prairie.

8. *Scholarships, Bursaries, Prizes and Medals*

The awards offered again in 1958 again totalled almost \$5,000.00. Donors in Alberta were the principal givers but the generous scholarship for strings, tuition at Peabody Conservatory in Baltimore, was again offered and again no candidate in any of the three provinces qualified. A few small prizes in the Peace River area were not awarded because conditions were not fulfilled.

New Awards

Three new awards were offered for the first time this year; the Northern Concert Society of Grande Prairie gave a \$25.00 bursary and Mrs. Flore Shaw of Berwyn began a bursary of \$25.00 yearly, offered to candidates living north of the Peace River. The Lady Laurier Club of Dawson Creek, B.C. also offered prizes totalling \$25.00, of which two were awarded.

Report of Lt.-Col. J. H. Whyte, Commanding Officer,

The University of Alberta Contingent, Canadian Officers Training Corps.

During the academic year 1958-59 the Officers of the Contingent were Lt.-Col. J. H. Whyte, Major W. C. Wonders, Captain H. R. Hawes and Captain J. R. Murray. The Honorary Colonel was Col. H. A. Dyde, OBE, MC, QC.

On the 16th May, 1958, Lt. Hawes was promoted to Captain. On 1st Oct., 1958 Major Wonders resigned and on 20th Nov., 1958 Captain Murray was taken on strength.

The Resident Staff Officer was withdrawn and replaced by a Tri-Service Resident Staff Officer.

According to the terms of reference the Tri-Service Resident Staff Officer was not to take part in the administration and training of this Unit, but training support was given by Western Command Headquarters.

During the summer of 1958, 34 Second Lieutenants and Officer Cadets took the Practical Training Phase. Two members of the Contingent were selected to train in Germany with 4th Canadian Infantry Brigade Group.

A first year enrolment quota of 14 was established by Army Headquarters. Seven first year cadets were actually enrolled. In addition three first year cadets of the Regular Officer Training Plan and two Subsidized Officers started their training with the Contingent.

There was no change in the Theoretical Training this year.

The Contingent participated in the following University activities: Jubilee Week and Remembrance Day Service. Social events held were the Tri-Service Winter Dance, the Tri-Service Ball and the Annual Mess Dinner.

Despite the small intake of recruits, with the help of Headquarters Western Command we were able to have a successful Theoretical Training Phase.

**Report of W/C B. E. Riedel, Commanding Officer,
University of Alberta Squadron, R.C.A.F.**

The cadets of the Squadron serving with the Air Force during the summer of 1958 numbered 71. Cadets in their first year attended a six week indoctrination school at the Reserve Officers School, St. Jean, P.Q., before being posted to various Air Force stations and schools. Four Flight Cadets were posted to bases in Europe for the summer of 1958.

Certain changes in the regular force support occurred this year. The Resident Staff Officer and the Clerk were removed from the Squadron strength. Support was provided by R.C.A.F. Station Namao, a University Squadron Support Officer and University Squadron Clerical Assistant being appointed. The personnel was unchanged since the previous RSO and Clerk were appointed to the new positions. The Staff of reserve officers remained as before; S/L Blackley, F/L Common, and F/L Anton at the University of Alberta in Calgary.

The support arrangement was reasonably adequate but represents an unfortunate change from the previous system which was eminently successful.

Recruiting was quite active this year. Ten Flight Cadets pre-selected by the R.C.A.F. for the Regular Officer Training Plan entered Engineering and Science courses at University in September 1958. In addition seven cadets were enrolled under this plan by the squadron during the University term. Such an enrolment during the University year represents a significant contribution to the needs of the R.C.A.F. Further, a transfer from the University Reserve Training Plan to the ROTP was made by two cadets. Fourteen cadets were enrolled in the URTP, including three girls. The squadron strength is now one hundred and nine cadets in training, five staff officers and a part-time Regular Force officer and clerk.

Nine cadets completed their training and were promoted to the rank of Pilot Officer.

Eight cadets will begin a career in the R.C.A.F. on graduation in May, including two pilots, two observers, three technical officers and one medical officer.

The winter training program was carried out on Wednesday evenings in the University Gymnasium and amounted to sixty-four hours. In addition to the regular series of lectures and films, a squadron sports evening was held and rifle shooting competitions were carried out.

Two mess dinners were held. The fall mess dinner was limited to second, third and fourth year cadets and was in the form of an achievement night. The spring mess dinner included all members of the squadron including the Calgary members. It was a training night for the first year cadets and felt to be highly successful.

An innovation this year was a Ceremony of Inspection held in the University Gymnasium on Thursday evening, March 12th. The President of the University, Dr. Walter Johns, inspected the Squadron, took the salute, and presented Canadian Forces' Decorations to three Flight Cadets. Group Captain W. M. Smith presented awards to the best cadets in the second and third year. Relatives of all the cadets were invited to witness the ceremony and the Training Command Band under the direction of F/L Friberg was in attendance. A briefing was presented by F/C Thompson to the inspecting officers, and a coffee party for the Squadron and guests was held in the Wauneita Lounge of the Students Union Building following the parade.

It is felt that this ceremony served to stimulate enthusiasm and interest on the part of the Flight Cadets themselves, the student body generally, as well as the visitors. It is anticipated that this will become an annual event.

Additional events of the year were a Tri-Service Smoker at H.M.C.S. Nonsuch, the "Military Mixer" dance held in the University Gymnasium, the Tri-Service Ball held at Western Command this year, and the annual band concert featuring the Training Command Band.

F/C Mary Galbraith was presented with the award for exception contributions judged on a Tri-Service basis. The award was presented by Lt. Col. Whyte.

Air Commodore J. B. Harvey, Senior Personnel Staff Officer, Training Command was invited to speak to the Faculty Club.

The Reserve Officers' School for first year male cadets will be held at College Militaire Royal, St. Jean, P.Q. during May and June 1959. Female cadets will attend a similar school at Centralia, Ontario.

Four senior cadets have been posted overseas for the summer. All other Flight Cadets will serve at R.C.A.F. Stations throughout Canada.

W/C B. E. Riedel, S/L A. B. Crighton, F/L F. D. Blackley and F/L F. R. Anton will be on staff at the St. Jean school.

Report of Lt./Cdr. R. S. Van Alstine, R.C.N.(R.), Commanding Officer, University Naval Training Division

The University Naval Training Division commenced its winter activity on the University of Alberta with an intensive recruiting campaign during late September and October. In all there were fourteen applications for UNTD; of which five were finally brought in with the confirmed rank of cadet R.C.N.(R.).

For the first time, this past year saw active interest by the Naval Service in the field of recruiting University Students for the Regular Officers' Training Plan. Two R.C.N. Commanders visited the campus to advance the plan to the students. The visit in the fall was quite successful; however, medical unfitness took a large toll. We have had three ex-UNTD's transfer to the permanent force since September of 1958, and one ROTP applicant has been provisionally accepted (pending results of his final examinations this spring).

For the first time this year we have two former men of the ranks attending the University of Alberta as Naval Cadets under the terms of the College Training Plan. They are both graduates of the R.C.N. Preparatory School at H.M.C.S. Naden. The complement is as follows: Officers, 5; Cadets, R.C.N., 3; Cadets, R.C.N.(R.), 17.

Training was organized before the commencement of the university year and a successful programme was completed on the 30th of March, 1959. There were no failures in any of the examination courses.

In October, 1958, a new and comprehensive set of standing orders were completed, to govern the activities, training and discipline of Naval Cadets borne in H.M.C.S. Nonsuch.

During the course of the winter extra activities included:

1. Tactical Air Command Band Concert.
2. Address by Chief of Naval Staff.
3. Two Gunroom Parties.
4. Tri Service Military Ball.
5. Tri Service Military Smoker.

The cadets have devoted a great deal of their leisure time to decorating the new Gunroom Mess. This Mess should be completed by September of 1959.

Nineteen of the twenty cadets will be undergoing Naval Training during the summer months at H.M.C.S. Stadacona, H.M.C.S. Naden and at Sea. All officers on the training staff will similarly be performing Naval Training during some part of the summer.

Report of Mr. D. D. Campbell, Director of the Department of Extension

I have the honor to submit the forty-sixth annual report on the extension activities of the University for the year ending March 31, 1959.

This report should properly be prefaced with a reference to the contribution made in the University's extension work by all members of the staff. Records of the 193 members reporting show the preparation of 2,000 public lectures or demonstrations to audiences of 101,000 and 149 radio or TV talks. These figures, the many hours spent in the preparation of bulletins, etc., time freely given in consultation in many public functions, suggest an active and valuable University-community partnership.

Short Courses, Evening Classes and Conferences

The evening class, short course and conference program of the University is of course one of the first responsibilities in the Extension program. During the year under review, 255 courses, classes, conferences and workshops were arranged in forty-nine different centres throughout the year, with an aggregate attendance of 7,680.

There is, of course, and must be, a great diversity in the variety of subject, method and arrangement but on the average, the typical class was attended by 32 people and was of a duration of 35 hours. The program of non-credit evening classes has been expanded as planned in the main centres including Edmonton, Red Deer, Calgary, Medicine Hat and Lethbridge, in most instances with the guidance and assistance of an interested local committee. As will be noticed from Table I, the evening class series includes such subjects as Law for the Layman, Aging in a Modern World, An Introduction to Astronomy, Office Management, Fundamentals of Horticulture, Church History, Oilfield Practice, Essentials of Written English, Effective Reading and Financial Statements and Investments.

During the year, members of the staff have been active in the Alberta Adult Education Conference, an informal working group. The Department of Extension has taken on a main responsibility for the organization of an annual province-wide two day meeting to which are invited national and international authorities in the field of adult education, and as well, regional conferences at which mutual problems are discussed. During the year under review, the Second Annual Conference had as its guest, Dr. Abbott Kaplan, a foremost authority in the field in the United States. Regional conferences in Lethbridge, Calgary and Red Deer were attended by Dr. J. Roby Kidd, Director of the Canadian Association for Adult Education and Gordon Campbell, Director of the Division of Adult Education, Province of Saskatchewan.

At the request of faculty members and representatives of provincial organizations, several new additions were made to the short course program. These included courses in Photogrammetry and Air Photo Analysis, which were directed towards graduate engineers and geologists. The instructors in each case were Professor A. J. McNair, Head of the Surveying Department at

Cornell University and Dr. J. D. Mollard of J. D. Mollard and Associates Ltd., Regina, Saskatchewan, both outstanding figures in this field. A new course, Estate Planning, was well received by members of the Edmonton public. A good deal of assistance in the planning and arrangements for this project was given by members of the Income Tax Bureau, Trust and Insurance Companies, lawyers and others. Among the courses for nurses this year was the Institute for Operating Room Nurses, instructed by Miss Mary Schwendeman, an authority in the field from New York. At the request of the Alberta Motor Transport Association and with the guidance of an advisory committee drawn from the industry, a new course, Motor Fleet Management, was arranged. Instruction in this course was given by Professors Shelby Gallien and D. A. Weaver from Purdue University. By way of experiment, extension courses through radio and television were arranged this year. Professor Grant Davy, of the University's Department of Political Economy prepared a series of ten radio broadcasts, listeners to which were invited to apply for reading materials and permitted to pose questions to the lecturer. The Agricultural Secretary was responsible for the coordination and preparation of an informal series of television presentations in gardening. The potential of television in adult education is enormous, and this Department looks forward to exploring similar possibilities in the future.

An extensive series of substantial courses of training in accounting and related subjects were offered by the University through the Departments of Extension and Accounting in conjunction with the Society of Industrial and Cost Accountants of Alberta. Both the need of students for training in this field and broader recognition of the designation 'R.I.A.' has been responsible for a very rapid growth in the number of these classes. During the year, twenty-two classes in Accounting, Advanced Cost Accounting, Fundamentals of Cost Accounting, Industrial Legislation and Industrial Organization and Management were offered in Edmonton and Calgary. A total of 761 students were enrolled in this series.

A significant addition to the University's Extension program has been the development of a series of longer-term courses leading to a certificate. These include Social Welfare which is currently being offered in Edmonton and Calgary to three classes aggregating 286 persons. The course involves five main subject areas—Introduction to Social Work, Human Growth and Personality Development, Interviewing Methods, Welfare Practice and Welfare Resources and the Community. Instruction is provided by practising professional social workers, members of the staff of this University and members of the staff of the University of British Columbia. The Certificate Course in Real Estate is also a three-year program based on correspondence material made available jointly by the Canadian Institute of Realtors and the University of Toronto. It involves a comprehensive study of areas of importance to the realtor including law, brokerage, insurance, accounting, economics and office management. The three-year long Certificate courses in Municipal Administration and Assessment, which have enrolled 259 students—Secretary-Treasurers, provincial government employees, assessing officers and interested rural council members, are outlined in another section of the report. At the request of the Faculty of Medicine and the Alberta Red Cross, the Department has worked in cooperation with the latter organizations in arranging an intensive year-long certificate course in Blood Grouping, Crossmatching and Associated Techniques.

As one might expect, members of the Department as individuals and the

Department as a whole have been involved with a variety of other activities. Many of these additional responsibilities are time consuming and demanding of the staff outside of regular office hours. They include major assistance to the Friends of the Ballet, a local committee responsible for sponsorship of the Royal Winnipeg Ballet and the National Ballet Companies, a series of lecture recitals by capable musicians who would not normally appear in recital in Edmonton, lecture series in the area of world affairs given this year by Georg Schwartzenberger and Floyd Schmoie. In cooperation with the I.O.D.E. and the Hazel Robinson Memorial Committee, the Department undertook the administrative responsibility for three creative writing competitions. The winners of these competitions receive scholarships to the University's Banff School of Fine Arts. Together with the Summer School, the Department of Extension sponsored the Banff School of Fine Arts travelling ballet and opera company. In addition to these events, members of the staff assisted many community organizations, including the Home and School, the Farmers' Union of Alberta, the Indian Affairs Branch of the Department of Citizenship and Immigration, and the Edmonton Citizenship Council in the planning and conduct of various projects.

Agricultural Extension

Leadership Training

One of the Department's important responsibilities in agricultural extension lies in the field of leadership training. During the year, projects in this area have included 'Committee Workshops' which are brief community conferences dealing with community organizational problems, the Annual Farm Young People's Week which this year gave an opportunity to rural young people to visit the University and meet the staff, the Leadership Techniques short course for young men and women between the ages of twenty-three and thirty-five, now in its ninth year, the Rural Leadership Conference to which the farm organizations send their organization's senior members and the Western Canadian Farm Leaders' Conference, a restricted meeting of twenty-five heads of western Canadian farm organizations, organized to provide a forum for discussion of problems relating to their organization in the field of agricultural economics, rural sociology and human relations.

Clearly, it is difficult effectively to measure the contribution made by these meetings at such a variety of levels since their impact is in terms not only of improved personal skills but also in terms of changed attitudes. There is evidence, however, that they have far-reaching effects on farm life. One notes in passing the enthusiasm of the students themselves, the willingness of the farm organizations to provide generous financial support and the interest displayed by farm people in general in the opportunity of attending the various courses and conferences.

Publications

Through the Agricultural Publications and Extension Committee, several major publications were issued during the year. These were: 'Small Fruit Growing in Alberta', '1958 Annual Feeder's Day', 'Cattle Finishing in Alberta', 'Grey Wooded Soils and Their Management', and the '1959 Press Bulletin'. Arrangements were made to distribute 'The Prairie Garden' magazine produced by the Winnipeg Horticultural Society. There has been a noticeable improvement in the attractiveness of the format of agricultural publications.

A monthly circular entitled 'A Selected List of Recent Agricultural Publications' has been mailed to a group of some 60 persons since January 1959. The

purpose of this circular is to keep interested persons informed of the latest available agricultural publications in Canada and the United States.

This office plays an important role as a central agency in the provision of agricultural information. During the year, 1,016 requests and inquiries were received and dealt with. The number of publications distributed in reply to requests and inquiries totaled 1,830; 12,606 were distributed through District Agriculturalists and commercial companies; 7,000 copies of the Press Bulletin were dispatched through the Department of Plant Science and 10,000 copies of the Feeder's Day Bulletin were distributed by the Department of Animal Science.

Classes

To meet the ever increasing demands for horticultural information, a total of eight evening classes were arranged in Edmonton, Red Deer, Calgary and Lethbridge in the field of gardening and landscaping.

With the assistance of the Agricultural Secretary, the horticulturists in the city of Edmonton Parks Department and the Alberta Department of Agriculture jointly made arrangements with CFRN-TV for a series of thirteen television programs on gardening. Each of the programs is moderated by a staff member of the University's Department of Horticulture. This is the first television course to be arranged through the University.

During the year, the Agricultural Secretary has, either directly or indirectly, assisted many provincial organizations including the Westlock Fair, the Alberta Horticultural Advisory Committee, the Farm Forum Radio Council, Allied Florists and Growers Association, the Northern Alberta Turf Grass Association, the Alberta Safety Council, the Canadian National Institute of the Blind and the Royal Commission on Education.

Citizens' Forum

As in previous years, the weekly radio and television productions in the Citizens' Forum series of discussion programs aroused a widespread interest. This was particularly true of two series of broadcasts on Unemployment and on Education, that were offered over periods of three weeks in December and in February. This technique assisted groups in their discussions of these important topics, and undoubtedly enabled more of the relevant points at issue to be presented for their consideration. A total of 110 correspondents followed the programs week by week.

Radio Extension

This year's total of programs broadcast by CKUA from the Campus studio included 123 talks, 7 organ recitals, 12 Western Board recitals and 30 record programs in the popular series 'My Saturday Evening Concert'. Of special interest were the various series of science talks and the study discussion series of ten talks on World Politics that were offered through the Department of Extension. Thirty-nine talks given in the regular program were subsequently rebroadcast during morning transmissions.

Extension Library (See Table II)

Since 1913, the University of Alberta, through the Extension Library, has been offering library service by mail to residents of the province who do not have ready access to books in their own communities. As the province has grown, use made of the Library has increased steadily. For the year ending

March 31, 1929, total circulation of books was 33,488; for 1938-39 51,007, for 1948-49 68,644 and for 1958-59 152,510.

Detailed statistical information is given in the accompanying table. Total circulation for 1958-59 has increased by 29,710, or a little more than twenty-four per cent over the previous year's total of 122,700. This increase represents a steady rise in the use of adult books in the Open Shelf and Travelling Libraries and a very heavy increase in the use of children's books.

The circulation of 50,477 for Travelling Libraries is estimated from reports submitted by custodians. It is evident that some may not have recorded full use of the books and that this figure should in all probability be higher.

Again this year, the Library has not been able to keep up with the requests for children's books. There is a continuing waiting list of from forty to fifty schools waiting to receive travelling libraries (boxes of thirty-five to forty books that may be kept three months). On the Open Shelf, that is parcels sent out by mail to families as well, the requests for children's books have been so heavy that it has been necessary to restrict the number of books sent to each child. Every effort has been made to maintain adult services as usual, and where necessary, to give priority to adult requests. While one of the responsibilities of library service—and indeed, one of its opportunities—is to supplement the work of the schools in developing the reading tastes of children and young people and to encourage them to continue their education after school, it is necessary that school authorities give serious attention to providing adequate book stock and other materials for classroom work. It is to be hoped that school libraries throughout the province will improve rapidly and that the University's important adult education service will be relieved of demands for enterprise materials, etc.

Travelling Libraries were sent during the year to 240 different community groups—187 schools, 12 Home and School Associations, 7 summer camps, 4 mining camps and 30 clubs and other community groups. As usual, books were supplied for non-credit evening courses and for study groups in art, music and drama throughout the province. One woman wrote to tell about winning a first prize for handicrafts at the Canadian National Exhibition, her third success, and remarked "The Library books have been a great help". Members of a women's group in Red Deer asked for material on Canadian dramatists, and one later wrote: "We presented our joint effort to the University Women's Club here last evening and it was favorably received. We both appreciate ever so much the help you gave us—without which I'm sure I don't know where we would have obtained our information."

In general, books are sent only to areas of the province where little or no library service is available. Residents of Edmonton, Calgary, Lethbridge, Medicine Hat and Red Deer are not served directly, though any book in the collection is available to libraries in these cities through inter-library loan. Normally, books are not sent outside the province, but special exception has been made to allow service to the far north. Parcels of books are sent regularly to a few readers in Yellowknife, Fort McPherson and other northern points, and a few Travelling Library boxes have been sent to schools and other community groups in Yellowknife and Fort Smith. Books were also supplied for two leadership conferences at Banff, the Summer Session of the Banff School of Fine Arts and the Banff School of Business Administration. Book displays were organized at the Adult Education Conference in Banff, the Community Life Conference at Olds and during Farm Young People's Week and Varsity Guest Weekend on the University campus.

Reference questions received during the year totalled 1,610. In addition, a large number of routine inquiries were answered by letter. As usual, the questions received illustrate the wide range of interests of users of the Library. The first request of the year was for a history of witchcraft; the last for a history of cosmetics. There has been a considerable increase in inquiries about house plans, remodelling, interior decoration, house wiring, plumbing and heating. As usual, many requests have been received from high school students, adults taking correspondence or extramural courses, Women's Institutes and other groups seeking program material, for information on English literature, the United Nations and its agencies, NATO, Canada's role in international affairs, and many aspects of Canadian history and culture. Other readers are interested in architecture of the Greek theatre, Heidelberg man, dialectical materialism, simple cookery, prospecting for uranium, mescaline, old spinning wheels, cooking a boned goose, preserving buffalo skulls, aboriginal hairdress, hot-rods, musk-ox, the Canadian Bill of Rights, physiognomy, centipedes, and homework as a detriment to health.

The Library was very fortunate to be among those receiving a set of the "Encyclopedia Canadiana" presented by the Richardson Century Fund to commemorate the hundredth anniversary of James Richardson & Sons, Limited. Several readers have donated current books, and small gifts of money are frequently made. One elderly man sent \$5.00 with a note, "There isn't a doubt that the value I have received from the library far exceeds any money I have subscribed".

Again this year the pressure of work has been very heavy. Much remains in the way of opportunity to provide the means of lifelong learning to men and women in the more isolated areas and to assist them in making the best use of their leisure hours. But while the day to day operation of the library has consumed the prime time and effort, much is being accomplished and the library staff is heartened by readers' appreciation. One went so far as to address an inquiry to "Dear friends and guardian angels". About books, a young girl writes: "I have found many of them informative, some of them inspiring and all of them entertaining. As an avid reader with a lot of time on my hands, I honestly do not know what I'd do without them." From another reader: "... the books sent me are the source of much enjoyment. Reading, in the life of an old woman like me, takes a large place and I am grateful to you for helping to fill it".

The function of the Library in serving as a goodwill ambassador of the University is underlined in a letter from a housewife in Peace River when a parcel was delayed for a short time: "This waiting . . . and wondering has made us appreciate more than ever how much we enjoy your wonderful service . . . my husband and I are both graduates of the U. of A. . . . We find that in raising our family here, although we love our fine north country, we are a little short of cultural influences. Your wonderful packages arriving every month make the University something very real and beloved by our harum-scarums . . ." And from a reader near Spirit River: "We live a long way from the nearest town, and your fine library service is a god-send to those who, like us, are isolated".

Visual Instruction Division (See Table III)

Audio-visual materials have an important place in informal adult education in Alberta and as teaching aids, they play a useful role in both intramural and general adult classes. Members of the staff of the Visual Instruction Division

have given effective and expert service to community organizations and individuals during the year as evidenced by various notes and comments of appreciation.

As has been the experience elsewhere, both the method of using film and total film usage is affected substantially by television. There is evidence of much more careful selection and discriminating use of audio-visual materials. After an initial negative impact, television tends to stimulate the use of films. Circulation is somewhat larger than last year, with the total standing at 16,500 reels. Total audiences viewing films were slightly over one-half million persons.

There is a marked improvement in the quality of film material available and it is interesting to note that of the new films added to the library during the past year, fifty percent were in color.

Film strip circulation of 3,200 is somewhat higher than last year, while the use of slides has continued to decrease.

As in past years, the Visual Instruction Division has provided service to communities in a variety of ways: through the rental of projection equipment, catalogue revisions, provision of screenings, both on and off the campus and informal assistance. This year, blocks of films have been loaned both to the Edmonton Film Council and the Edmonton Area Film Federation on a long-term basis through an arrangement which maximizes the use of the library's film stock. Schools which are now building up their own libraries of film strips have taken advantage of the consulting service provided by the Division in the acquisition of suitable material.

It is a pleasure again to record the courtesies extended by the National Film Board and for the cordial and effective cooperative arrangements which have existed during the year.

Petroleum Industry Training Service

The Petroleum Industry Training Service, which is financially supported by the Canadian Petroleum Association, the Canadian Association of Oilwell Drilling Contractors and the Oil and Gas Conservation Board, has as its purpose the training of oil industry personnel. During the year under review, 1,009 employees attended 42 schools offered throughout the province and in Saskatchewan.

The schools are prepared under the guidance of a Production Training Committee and a Drilling Training Committee representing the sponsoring associations, and the organization is under the direct guidance from an Advisory Committee.

Altogether during the year, three members of the staff instructed a total of 426 lecture hours. Highlights among the courses were a Drilling Technology School, seminars for the Alberta and Central Canada Oil Scouts Association, the Alberta Landmen's Association, the Calgary Desk and Derrick Club, Calgary lawyers and the sponsoring of a school on Blowout Prevention presented by the Petroleum Extension Service, University of Texas.

Basis of the year's program, however, centered around the regular presentations of the 15 hour Battery Operations School, a 30 hour Drillers School, a 12 hour Supervisory Training School and several short courses on safety subjects. There was a steady and satisfactory response to all of this instruction, and despite a slight recession throughout the industry, the Petroleum Industry Training Service had a productive and well-supported year.

Fine Arts Division

Drama

Festivals are the show case of the amateur theatre and in continuing to guide and assist the Alberta Drama League in the organization of the Provincial One-Act Festival and the Alberta Regional Festival, the Extension Specialists give effective assistance to participating groups. The importance of these festivals to the development of theatre in Alberta is evident when it is considered that they are the only way in which theatre activity from various parts of the province can be displayed, compared and evaluated. Not only are they an effective method of building theatre audiences but through the instruction offered by competent adjudicators, both audiences and players broaden their knowledge. Audiences totalling approximately 6,000, as well as 225 players, and technicians, have participated in these festivals this year.

The Medicine Hat Civic Theatre, which, it should be noted, is a group which has consistently entered both festivals for the past six years, won first place honors at both festivals. Their continuity of support has done much to raise and maintain the festival standards. Special mention should be made of their Director, Mr. Henry Allergoth, who has made a decided contribution, both to his own community and the province as a whole.

The Extension Drama Specialist has conducted nine workshops and drama courses totalling 48 sessions during the year in Lethbridge, Olds, Bowden, Medicine Hat, Edmonton, Calgary and Eckville, with a total attendance of 101. In addition, a total of 28 separate adjudications, lectures and demonstrations were given in 17 centres with an attendance of 1,507. A ten-week course in Speech was arranged in the Evening Division classes in Calgary with Leona Flegal Paterson as instructor. In May, a Theatre Conference was arranged in cooperation with the Drama Division of the Department of Fine Arts at the Studio Theatre. The general theme of the Conference was the promoting of an interest in and encouragement of new playwrights. Guest lecturer was Professor Robert Gard of the Wisconsin Idea Theatre.

For a four-week period in May and June, an outstanding lecturer, Mr. Brian Way, playwright and director of the London Theatre for Children Company, was brought to Canada through the cooperation of the Canada Council, the Dominion Drama Festival, the Nova Scotia Department of Education, the University of British Columbia, various drama organizations in Manitoba and this Department. While in Alberta, Mr. Way gave special lectures in Red Deer and Calgary, instructed in two evening courses sponsored by the Department of Extension, demonstrated in the training program for playground leaders sponsored by the Recreation Department of Edmonton and provided introductory direction of his play "Pinocchio", which was performed in the fall by the Edmonton Recreation Department's Theatre for Children.

Along with this training program, the advisory service concerned with play choice, stage planning and general organization has been maintained.

Music

During the year, the emphasis on the choral program in Extension Music has been continued. Since this is undoubtedly the area of greatest music activity, and the one in most need of help, 11 classes of ten weeks duration were organized in rural areas and 370 people registered for 20 hours of instruction. Contact with classes of previous years was this year regained through the medium of the Festival of Choirs. In this project, the Extension Specialist in Music, assisted fourteen community choirs in preparing a program for pre-

sentation in a mass choral festival held in Edmonton at the conclusion of the term.

The Department was fortunate this year in recruiting four instructors of first-class ability, including Hugh Bancroft, Bridget Headley and Wayne Matkin, for a series of classes arranged in the south of the province including Vauxhall, Claresholm, Nanton, Champion, Arrowwood and Okotoks.

A Music Theory Workshop was conducted in Grande Prairie by Professor A. B. Crighton in which problems related to preparation of students for the Western Board of Music theory examinations were considered. In light of the response, other such workshops are being planned.

A series of lecture-recitals given by artists of ability not sponsored by the usual agencies was held under University auspices. A Beethoven program by Walter Schenkman, pianist of Greeley, Colorado, was presented in November. Boris Roubakine was heard on three consecutive Wednesday evenings in February and March of 1959 in a discussion and performance of the music of Schubert, Schumann, Frank, Faure and Chabrier. An outstanding event was the delightful lecture-recital given by Peter Pears, tenor, and Julian Bream, lute and guitar, both of England, in Convocation Hall in March. These, with the others, were outstanding musical events and the direction of our cultural growth cannot help but be influenced by the examples of musical artistry such as these. In this way is the musical public periodically reminded of the highest artistic standards in music.

Three classes in music were offered within the evening class program of the Department which included a survey of chamber music, conducted by Miss Ann Burrows, a new addition to the program, 'The Evolution of Jazz' carefully and professionally presented by Mr. T. Banks and Mr. R. Repka and a training course for church choir leaders conducted by Mr. Hugh Bancroft in Edmonton.

In addition to the assistance he has given the University Mixed Chorus, the Extension Specialist in Music has served in a number of capacities concerned with the promotion and direction of musical activities in Edmonton and the province as a whole. These have included membership in the Alberta Music Board, the Alberta Music Educators Association (as Secretary-Treasurer), the newly formed Jeunesses Musicales of Canada (as Executive member and Treasurer). On the invitation of the City of Edmonton Recreation Department, he directed a production of Menotti's "Amahl and the Night Visitors", a Christmas presentation for children.

Painting

Under the energetic supervision of the Extension Lecturer in Painting, a productive, instructional and educational program within the Community Art Classes has been carried on this year. While it is a source of satisfaction to see the good quality and vigor displayed in the paintings of these amateur students, what is perhaps more important is the opportunity afforded the student to express his horizons and develop his creative talents. Instruction was offered in 24 centres to 487 students. Instruction in these classes was given primarily by the Extension Specialist in Painting, assisted by Miss Janet Middleston, Mr. Leslie Graff, Miss Joan Byrne and Professor Allison Forbes.

As in past years, the instruction of the Extension Specialist or guest instructors, was alternated by classes held under the instruction of local supervisors.

Extensive use is made of prepared materials including slides, films and tape-recorded talks in these classes. In addition to reference texts, ample

reference reading is made available through the Extension Library. Several of the larger communities are being assisted in the provision of regular instruction to beginners. Local exhibitions were arranged at thirteen centres and five travelling exhibitions were made available to classes during the year. A special exhibition of twenty paintings of Community Art Class students was hung at the Canadian National Exhibition and two other sets of paintings from Community Art Class students have been dispatched to the Academy of Fine Arts in Munich, Germany, and to the College of Fine Arts, Missoula, Montana. The concluding items of the year's work were the Community Art Class Conferences held in Lethbridge and Edmonton respectively, attended by 115 members of the Community Art Classes as well as prominent Alberta artists and members of the University staff.

Public Administration Training Division

A significant new development in the University's Extension program has been the formation of a Public Administration Training Division. The establishment of this Division was in response to requests from municipal officers, including those in the field and in the Department of Municipal Affairs. The immediate purpose of the Division is to provide a broad training program to administrative officers and assessors.

Two, three-year-long certificate courses in Municipal Assessment and in Municipal Administration commenced in October, designed to provide a realistic and fundamental training program to beginners and refresher work for experienced assessors and municipal administrators.

An Advisory Committee, comprising representatives of the University, the Department of Municipal Affairs, the Association of Municipal District Secretary-Treasurers, the Union of Alberta Municipalities, the Alberta Association of Municipal Districts, the Association of Assessing Officers of Alberta and the Appraisal Institute of Canada, under the chairmanship of the Director of Extension, gives guidance to the program. Registration this year was limited to 132 in Assessment and 133 in the Administration course.

These training programs envisage three stages. In each of the three years of the two courses, twenty comprehensive lessons have been prepared by the lecturer in Public Administration and by other experts in the field, and these, together with appropriate reference texts, copies of provincial Acts and many other supplementary materials, are forwarded weekly to students. During the term, the Lecturer in Public Administration, or an expert in one of the fields under discussion, has met with the student body who are organized in fourteen seminar groups in Three Hills, Castor, Wainwright, St. Paul, Westlock, Edmonton (3 groups), Red Deer, Calgary (2 groups), Pincher Creek, Lethbridge, Medicine Hat, Grande Prairie and Peace River. The purpose of the seminar has been to provide an opportunity for the discussion of questions arising out of the prepared materials, elaboration and clarification of difficult points and a general orientation of the material. In this purpose, it has been remarkably successful and attendance at the seminars has been very high. While the 259 students have found the material demanding, the drop out rate has been negligible. Following the final seminar, two three-day conferences, one in the north of the province, and the other in the south, will be arranged to provide a final review for the student, following which each will write an examination on the year's material.

Grateful acknowledgment is made to the Department of Municipal Affairs which provided financial assistance to the training program, to the willing

officers of interested municipal organizations who gave freely of their time and to authorities in various fields who prepared a number of lessons.

Staff

As in the past, University Extension has counted heavily on the cooperation and assistance of farm, business, professional and other organizations. Due in large part to their cordial cooperation, a broad program of course offerings to the public has been possible this year. It is a special pleasure to record the interest and cooperation of members of the staff of the University in the presentation of the extension program.

Special mention should be made of the painstaking and conscientious effort by all members of the staff in General Extension, Visual Instruction Division, Public Administration, Petroleum Industry Training Service and the Extension Library. They have cheerfully and effectively carried a heavy load.

During the year under review, Miss Margaret Galloway of Johannesburg, South Africa, was appointed Assistant Librarian. Mr. Allan Des Champs, who was formerly associated with the Aluminum Company of Canada, joined the staff as Agricultural Secretary, succeeding Mr. Sylvan O. Hillerud who retired. Mr. Donald Bancroft was appointed Lecturer in the new Public Administration Training Division.

Conclusion

In contemplating the university's role in adult education, an American educator has suggested three main responsibilities. He cites first the provision of special instruction in special subjects within the purview of the university, framed in such a way that the adult wanting some insight into the arts or the humanities may get the help that will send him on his way. He sees as a second important function that of providing vocational or professional training—again in areas within the purview of the university—by way of increasing the effectiveness of adults who know what they want to do and do not have the skills to do it. And finally, he emphasizes the university's responsibility in providing educational programs designed to foster in adults those qualities which secondary schools, and, indeed, undergraduate studies may fail to develop.

Against these objectives should be measured our current extension program summarized in this report as a reminder of purpose, a yardstick of success and as a signpost for future effort.

Dr. Milton S. Eisenhower, President of Pennsylvania State University, has summed up the modern state university's responsibilities in this way,—“In my judgment . . . the obligation of the University extends to **all** the people of the state—to the people from whom we receive so much of our financial support—not just to those students who enrol formally as degree candidates. In short, I believe that our responsibility is state-wide, that education must be continuous rather than terminal, and that, therefore, we must not be afraid as we seek to serve our constituency, “to inhabit the walks of man”.

Table I—Short Courses, Classes, Conferences and Workshops Arranged and Organized by the Department of Extension

Short Courses, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
A. EVENING DIVISION					
1. Conversational French	Royal Astronomical Society	Calgary	Oct. 21-Dec. 15	14	21
2. Conversational French (Advanced)		Calgary	Oct. 15-Dec. 17	15	12
3. What to Listen for in Music		Calgary	Oct. 14-Dec. 16	15	27
4. An Introduction to Astronomy		Calgary	Oct. 14-Dec. 16	15	30
5. Office Management		Calgary	Oct. 14-Dec. 16	15	22
6. Russian Language—Class 'A'		Calgary	Oct. 20-Jan. 19	24	18
7. Russian Language—Class 'B'		Calgary	Oct. 20-Jan. 26	24	18
8. Greek Art and Architecture		Calgary	Oct. 16-Dec. 18	15	9
9. Conversational French		Calgary	Jan. 19-Nov. 23	15	31
10. Spanish for Beginners—Class 'A'		Calgary	Jan. 21-Apr. 22	18	20
11. Spanish for Beginners—Class 'B'	National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n.	Calgary	Jan. 21-Apr. 22	18	26
12. Russian Language (Beginners)		Calgary	Jan. 19-Apr. 6	18	12
13. Russian Language (Senior Group 'A')		Calgary	Feb. 3-Apr. 7	20	8
14. Russian Language (Senior Group 'B')		Calgary	Jan. 26-Mar. 16	16	8
15. The Law in Action		Calgary	Jan. 14-Mar. 18	15	39
16. The Frontiers of Science		Calgary	Jan. 20-Mar. 24	20	136
17. What to Listen for in Music		Calgary	Jan. 20-Mar. 24	15	10
18. Reading Improvement		Calgary	Jan. 12-Mar. 16	15	30
19. Job Instruction Training		Calgary	Jan. 13-Feb. 14	10	15
20. Job Relations Training		Calgary	Feb. 17-Mar. 17	10	18
21. Conference Method and Technique	National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n.	Calgary	Mar. 24-May 12	16	21
22. Office Management		Calgary	Jan. 20-Mar. 24	20	24
23. Leadership Course in Parent Education		Calgary	Jan. 12-Mar. 30	24	9
24. Building or Buying Your Home		Calgary	Feb. 4-Mar. 18	10	49
25. Fundamentals of Horticulture		Calgary	Jan. 29-Apr. 16	18	50
26. Ways of Mankind		Edmonton	Oct. 1-Dec. 10	16	25
27. Comparative Religion I		Edmonton	Jan. 12-Mar. 2	12	36
28. Church History		Edmonton	Jan. 14-Mar. 18	15	7
29. The Challenge of Communism		Edmonton	Oct. 31-Jan. 31	18	12
30. Conversational French—Class 'A'		Edmonton	Oct. 7-Feb. 24	30	23
31. Conversational French—Class 'B'	National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n. National Office Management Ass'n.	Edmonton	Oct. 7-Feb. 24	30	26
32. Conversational French (Senior)		Edmonton	Oct. 9-Feb. 26	30	15
33. Italian Conversation		Edmonton	Oct. 1-Dec. 17	18	39
34. Italian Conversation (Continuation)		Edmonton	Jan. 14-Apr. 1	12	6
35. Spanish for Beginners—Class 'A'		Edmonton	Oct. 27-Feb. 16	21	19
36. Spanish for Beginners—Class 'B'		Edmonton	Oct. 27-Feb. 16	21	19
37. Conversational German—Class 'A'		Edmonton	Jan. 14-Apr. 1	15	11
38. Conversational German—Class 'B'		Edmonton	Jan. 14-Apr. 1	15	28
39. Essentials of Written English		Edmonton	Oct. 1-Feb. 18	25	42
40. Effective Reading		Edmonton	Oct. 1-Dec. 3	9	20
41. Financial Statements and Investments		Edmonton	Sep. 29-Dec. 1	16	28

Table I—Continued

Short Courses, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
89. Recent Advances in Science	Medicine Hat Extension Committee and Medicine Hat Branch of Alberta Professional Engineers	Medicine Hat	Nov. 3-Mar. 3	20	60
90. Introduction to Social Welfare	Medicine Hat Extension Committee	Medicine Hat	Jan. 15-Mar. 19	20	18
91. Introduction to Psychology		Red Deer	Feb. 5-Mar. 26	16	22
92. Gardening		Red Deer	Jan. 28-Mar. 4	9	24
93. Introduction to Social Work— Class 1, Part B.		Edmonton	Apr. 10-Jun. 26	24	27
94. Introduction to Social Work— Class 2, Part A.		Edmonton	Apr. 9-Jun. 25	24	36
95. Introduction to Social Work— Class 2, Part B.		Edmonton	Sep. 24-Nov. 20	24	28
96. Human Growth and Personality Development—Class 1		Edmonton	Oct. 13-Mar. 10	36	22
97. Human Growth and Personality Development—Class 2		Edmonton	Dec. 9-Apr. 10	36	35
98. Introduction to Social Work— Part A		Calgary	Apr. 1-Jun. 17	24	38
99. Introduction to Social Work— Part B		Calgary	Sep. 23-Nov. 19	24	45
100. Human Growth and Personality Development		Calgary	Dec. 4-Apr. 30	40	43
101. Introduction to Social Work— Part A		Lethbridge	Jan. 27-Apr. 14	24	12
102. Credit Union Organization and Management	Southeastern Chapter, Credit Union League of Alberta	Medicine Hat	Sep. 25-Sep. 27	6	41
103. Photography	Faculty of Engineering	Edmonton	Apr. 8-Apr. 12	30	45
B. RURAL, COMMUNITY AND AGRICULTURAL SHORT COURSES AND CONFERENCES					
104. Alberta Adult Education Conference	Alberta Adult Education Council	Banff	May 16-17	...	44
105. Farm Young People's Week	A.W.P., U.G.G., F.U.A., A.F.A.	Edmonton	Jun. 18-Jun. 27	60	161
106. Community Forum	Local Community Organizations	Olds	Aug. 18-Aug. 20	...	28
107. Leadership Techniques Short Course	A.W.P., U.G.G., F.U.A., A.W.I., A.C.W.A.	Banff	Oct. 27-Nov. 7	80	32
108. District Meeting	Alberta Adult Education Conference	Lethbridge	Nov. 11	...	24
109. District Meeting	Alberta Adult Education Conference	Calgary	Nov. 22	...	24
110. District Meeting	Alberta Adult Education Conference	Red Deer	Nov. 22	...	39
111. Community Workshop	Farmers' Union of Alberta	St. Paul	Mar. 19	...	65
112. Rural Leadership Conference	A.W.P., U.G.G., F.U.A., A.W.I., A.F.A.	Banff	Feb. 21-Feb. 22	14	22
113. Western Canadian Farm Leaders' Conference	Western farm unions and Co-operatives	Banff	Mar. 2-Mar. 13	82	34
		Banff	Mar. 23-Mar. 27	30	23
C. FINE ARTS EXTENSION CLASSES AND WORKSHOPS					
114. Summer Short Course	Lloydminster Art Club	Lloydminster	May 19-May 23	12	12
115. Summer Short Course	Medicine Hat Art Club	Medicine Hat	Jun. 9-Jun. 13	36	15
116. Community Art Class	Athabasca Art Club	Athabasca	Oct. '58-Apr. '59	24	20

117.	Community Art Class	Edson	Oct. '58-Apr. '59	52	18
118.	Community Art Class	Edson	Oct. '58-Apr. '59	14	15
119.	Community Art Class	Edson	Oct. '58-Apr. '59	12	15
120.	Community Art Class	Edson	Oct. '58-Apr. '59	21	15
121.	Community Art Class	Edson	Oct. '58-Apr. '59	18	10
122.	Community Art Class	Edson	Oct. '58-Apr. '59	22	24
123.	Community Art Class	Edson	Oct. '58-Apr. '59	21	22
124.	Community Art Class	Edson	Oct. '58-Apr. '59	21	25
125.	Community Art Class	Edson	Oct. '58-Apr. '59	6	9
126.	Community Art Class	Edson	Oct. '58-Apr. '59	24	18
127.	Community Art Class	Edson	Oct. '58-Apr. '59	40	50
128.	Community Art Class	Edson	Oct. '58-Apr. '59	24	20
129.	Community Art Class	Edson	Oct. '58-Apr. '59	35	27
130.	Community Art Class	Edson	Oct. '58-Apr. '59	28	30
131.	Community Art Class	Edson	Oct. '58-Apr. '59	21	18
132.	Community Art Class	Edson	Oct. '58-Apr. '59	28	15
133.	Community Art Class	Edson	Oct. '58-Apr. '59	28	12
134.	Community Art Class	Edson	Oct. '58-Apr. '59	15	12
135.	Community Art Class	Edson	Oct. '58-Apr. '59	25	30
136.	Community Art Class	Edson	Oct. '58-Apr. '59	21	20
137.	Community Art Class	Edson	Oct. '58-Apr. '59	18	15
138.	Community Art Class	Edson	Oct. '58-Apr. '59	14	8
139.	Community Art Class	Edson	Oct. '58-Apr. '59	14	12
140.	Looking at Modern Painting	Edson	Oct. '58-Apr. '59	20	12
141.	Alberta Theatre Conference	Edson	May 10	....	70
142.	Directing Conference	Edson	May 16-May 30	....	13
143.	Child Drama in Recreation	Edson	May 26-May 29	16	85
144.	Direction	Edson	May 26-Jun. 15	20	25
145.	Child Drama Conference	Edson	May 30	....	30
146.	Child Drama	Edson	Jun. 2-Jun. 18	12	19
147.	Drama in Jr. and Sr. High Schools	Edson	Jun. 3-Jun. 19	12	7
148.	Drama Workshop	Edson	Oct. 8-Oct. 10	6	10
149.	Speech	Edson	Jan. 13-Mar. 17	18	12
150.	Acting	Edson	Jan. 13-Mar. 23	18	10
151.	Acting	Edson	Jan. 27-Feb. 24	9	17
152.	Acting	Edson	Jan. 28-Feb. 25	9	15
153.	Acting	Edson	Jan. 30-Feb. 27	9	21
154.	Child Drama Workshop	Edson	Feb. 4-Feb. 25	6	15
155.	Choral Workshop	Edson	Jan. 12-Mar. 16	20	33
156.	Choral Workshop	Edson	Jan. 14-Mar. 18	20	50
157.	Choral Workshop	Edson	Oct. 15-Dec. 17	20	26
158.	Choral Workshop	Edson	Jan. 13-Mar. 17	20	35
159.	Choral Workshop	Edson	Feb. 9-Mar. 23	14	45
160.	Choral Workshop	Edson	Jan. 20-Mar. 24	20	40
161.	Choral Workshop	Edson	Oct. 14-Dec. 15	20	37
162.	Choral Workshop	Edson	Jan. 16-Mar. 20	20	24
163.	Choral Workshop	Edson	Oct. 17-Dec. 19	20	24
164.	Choral Workshop	Edson	Oct. 17-Dec. 19	20	25
165.	Choral Workshop	Edson	Jan. 20-Mar. 24	20	15
166.	Choral Workshop	Edson	Jan. 13-Mar. 17	20	43

Table 1—Continued

Short Courses, Class Conference or Workshop	Co-sponsors	Location	Period	Hours	Attendance
167. Theory Workshop	Dep't. of Fine Arts	Grande Prairie Edmonton	Sep. 19-Sep. 20	12	15
168. Piano Master Class			Feb. 25-Mar. 11	6	80
D. BUSINESS, INDUSTRIAL AND PROFESSIONAL COURSES					
169. Airphoto Interpretation for Civil Engineers	Dep't. Civil Engineering	Edmonton	Feb. 9-Feb. 13	30	45
170. Seminar in English Linguistics	Dep't. of Citizenship and Immigration	Edmonton Calgary	Jul. 2-Aug. 14	150	6
171. English Usage for Chartered Accountants	Alberta Institute of Chartered Accountants		Nov. 22-Jan. 24	24	37
172. English Usage for Chartered Accountants	Alberta Institute of Chartered Accountants	Edmonton	Nov. 22-Jan. 24	24	41
173. English Usage for Chartered Accountants	Alberta Institute of Chartered Accountants	Correspondence	Nov. 22-Jan. 24	24	17
174. Law in Action	Calgary Jr. Chamber of Commerce	Calgary	Oct. 1-Dec. 3	15	24
175. Effective Reading	Edmonton Jr. Chamber of Commerce	Edmonton	Oct. 20-Dec. 15	18	20
176. Supervisory Training	Edmonton Jr. Chamber of Commerce	Edmonton	Jan. 13-Mar. 24	20	24
177. Communication and Business Problems	Edmonton Branch, Engineering Institute of Canada	Edmonton	Oct. 20-Mar. 9	17	54
178. Credit Union Short Course	Edmonton Chapter C.U.L.	Edmonton	May 1-May 3	10	230
179. Municipal Administration	Dep't. of Municipal Affairs	Banff	Jun. 8-Jun. 11	15	75
180. Writing for Television	Dep't. of Education, Alberta School Trustees' Association, Municipal Secretaries-Treasurers' Association	Edmonton	Sep. 15-Sep. 17	18	13
181. Writing for Television		Calgary	Sep. 18-Sep. 20	18	13
182. School Administration		Banff	Jun. 11-Jun. 14	16	139
183. Podiatrists' Course	Edmonton Podiatry Association	Edmonton	Oct. 6-Oct. 7	12	9
184. How to Invest Your Money	Investment Dealers' Association	Correspondence	Oct. 1-Mar. 31	30	106
185. Introduction to Leadership	Council of Community Services	Edmonton	Nov. 3-Feb. 16	24	41
186. Motor Fleet Management	Alberta Motor Transport Association	Edmonton	Nov. 17-Nov. 21	30	37
187. Prospecting	Alberta and Northwest Chamber of Mines, Canadian Institute of Mining and Metallurgy	Edmonton	Jan. 14-Mar. 2	26	55
188. Planning Your Estate	Edmonton Trust Association, Canada Life Underwriters, Department of National Revenue, Faculty of Law	Edmonton	Jan. 14-Mar. 18	20	45
189. Managing Investments	Investment Dealers' Association	Edmonton	Jan. 27-Mar. 10	14	35
190. Managing Investments	Investment Dealers' Association	Calgary	Jan. 27-Mar. 10	14	104
191. Administrative and Financial Controls	School of Commerce	Edmonton	Jan. 26-Apr. 27	28	15
192. Real Estate Principles and Practice	Alberta Real Estate Ass'n.	Calgary	Jan. 27-Apr. 28	28	71
193. Real Estate Principles and Practice	Alberta Real Estate Ass'n.	Edmonton	Jan. 29-Apr. 30	28	47
194. Institute for Operating Room Nurses	Alberta Ass'n. of Registered Nurses and School of Nursing	Edmonton	Feb. 23-Feb. 27	27	33
195. Institute for Operating Room Nurses	Alberta Ass'n. of Registered Nurses and School of Nursing	Calgary	Mar. 2-Mar. 6	27	32
196. Leadership Course for Indians	Dept. for Indian Affairs	St. Paul	Mar. 16-Mar. 20	20	16

197. Accounting I	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	34
198. Accounting I	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	34
199. Accounting I	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	37
200. Accounting II	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	33
201. Advanced Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 7-Mar. 24	40	26
202. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 9-Mar. 26	40	32
203. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	43
204. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	38
205. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 6-Mar. 23	40	41
206. Industrial Organization and Management	Society of Industrial and Cost Accountants of Alberta	Edmonton	Oct. 10-Mar. 27	40	17
207. Accounting I	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	36
208. Accounting I	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	44
209. Accounting I	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	47
210. Accounting II	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	26
211. Accounting II	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	28
212. Advanced Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	30
213. Fundamentals of Cost Accounting	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 9-Mar. 26	40	30
214. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	44
215. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	43
216. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	38
217. Industrial Legislation	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 6-Mar. 23	40	36
218. Industrial Organization and Management	Society of Industrial and Cost Accountants of Alberta	Calgary	Oct. 10-Mar. 27	40	24

E. PETROLEUM INDUSTRY TRAINING SERVICE COURSES

219. Trident Drillers Schools	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	7-Apr. 11	30	8
220. Drilling Technology School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Apr. 14-Apr. 18	30	26
221. Drilling Technology School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Apr. 21-Apr. 25	30	28

Table 1—Continued

Short Courses, Class Conference or Workshop

		Co-sponsors	Location	Period	Hours	Attendance
222.	Drillers School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Apr. 21-Apr. 25	30	10
223.	Scout Seminar	C.P.A., C.A.O.D.C., O. & G.C.B. and Western Canadian Oil	Calgary	Apr. 16-Apr. 18	21	20
224.	Scout Seminar	C.P.A., C.A.O.D.C., O. & G.C.B. and Western Canadian Oil	Regina	Jun. 18-Jun. 20	21	16
225.	Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Regina	Jun. 17-Jun. 20	12	11
226.	Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Red Deer	Jun. 25	2½	67
227.	Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Innisfail	Jun. 26	2½	57
228.	Battery Operations School	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Jul. 8-Jul. 10	15	9
229.	Drillers School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Sep. 22-Sep. 26	30	6
230.	Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Oct. 28-Nov. 25	15	28
231.	Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Oct. 29-Nov. 26	15	22
232.	Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Valley View	Sep. 29-Oct. 3	15	20
233.	Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Oct. 14-Oct. 17	12	8
234.	Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Weyburn, Sask.	Oct. 13-Oct. 17	15	18
235.	Drillers School	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Oct. 27-Oct. 31	30	17
236.	Practical Oil Field Operations	C.P.A., C.A.O.D.C., O. & G.C.B. and Desk and Derrick Club	Calgary	Nov. 7-Dec. 12	12	24
237.	Oil and Gas Lease (Law Seminar)	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Nov. 25-Dec. 5	12	20
238.	Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Nov. 25, 26-Dec. 2, 3	12	17
239.	Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Dec. 1-Dec. 4	12	17
240.	Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Fox Creek	Dec. 8	5	19
241.	Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Whitecourt	Dec. 9	5	13
242.	Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Swan Hills	Dec. 11	5	81
243.	Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Red Deer	Jan. 7, 13, 14, 20, 21	15	20
244.	Blowout Prevention	C.P.A., C.A.O.D.C., O. & G.C.B. and Pet. Ex. U. of Texas	Calgary	Jan. 26-Jan. 27	12	33
245.	Blowout Prevention	C.P.A., C.A.O.D.C., O. & G.C.B.	Edmonton	Jan. 29-Jan. 30	12	30
246.	Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Pincher Creek	Feb. 2-Feb. 5	12	15
247.	Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Jan. 27-Feb. 3, 10, 13, 17	15	22
248.	Battery Operations	C.P.A., C.A.O.D.C., O. & G.C.B.	Breton	Jan. 28-Feb. 4, 6, 11, 18	15	19
249.	Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Calgary	Feb. 17, 18, 24, 25	12	22
250.	Alberta Landmen's Seminar	C.P.A., C.A.O.D.C., O. & G.C.B. and Alberta Landmen's Association	Calgary	Mar. 2-Mar. 4	12	86
251.	Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Estaván, Sask.	Mar. 11	5	109
252.	Hydrogen Sulphide Gas	C.P.A., C.A.O.D.C., O. & G.C.B.	Devon	Mar. 17	2½	15
253.	Fire Control School	C.P.A., C.A.O.D.C., O. & G.C.B.	Swan Hills	Mar. 19	2½	30
254.	Supervisory Training	C.P.A., C.A.O.D.C., O. & G.C.B.	Drayton Valley	Mar. 17-Mar. 20	12	22
255.	Fire Control School	C.P.A., C.A.O.D.C., O. & G.C.B.	Red Deer	Mar. 24	5	25
						7,680

TABLE II
STATISTICAL INFORMATION, EXTENSION LIBRARY

	1957-58	1958-59	Difference
<i>Open Shelf</i>			
	1957-58	1958-59	Difference
Adult books	56,815	64,525	7,710
Periodicals and pamphlets	1,954	1,413	—541
Children's books	20,404	35,544	15,140
	<hr/>	<hr/>	
	79,173	101,482	22,309
<i>Travelling Libraries</i>			
No. of Travelling Libraries sent out (35-40 books per box):			
	1957-58	1958-59	
Adult	103	115	
Mixed (adult and children's)	60	55	
Children's	382	425	
	<hr/>	<hr/>	
	545	595	
Circulation (Recorded outside the Library)	43,185	50,477	7,292
<i>Banff School of Fine Arts</i>	342	451	109
	<hr/>	<hr/>	
<i>Total Circulation</i>	122,700	152,410	29,710
<i>Reference questions</i>	1,481	1,610	129
<i>Number of books in collection</i>			
At April 1, 1958		47,465	
Accessions	4,529		
Withdrawals	2,335	2,194	
	<hr/>	<hr/>	
At March 31, 1959		46,659	
<i>Membership</i>			
Open Shelf—Number of active readers' cards (Each representing from one to eight persons)			6,134
Travelling Libraries—Number of community groups to whom libraries were sent			240

TABLE III
STATISTICAL INFORMATION, DIVISION OF VISUAL INSTRUCTION

<i>Number of Moving Picture Films in Library:</i>	
Silent, 8 mm. and 16 mm.	505
National Film Board Sound Films	925
Sponsored Sound Films	280
Sound Films, General	1,589
Total Films in Library	3,299
<i>Number of new films added to library during year (included in the above)</i>	89
<i>Number of Filmstrips in the library</i>	2,487
<i>Number of sets of 2 × 2 slides in library</i>	180

FILM CIRCULATION

	1958-59	1957-58	Comparison
Number of reels silent films sent out	891	721	+170
Number of reels sound film sent out	16,519	16,293	+226
Total sets of moving pictures sent out	3,980	3,997	-17
Total number of showings of films, sound and silent	5,266	5,253	+13
Total audience viewing films	504,739	467,132	+37,607
Number of times projection service supplied	201	210	-9
Number of screenings for groups in screening room	90	59	+31

SLIDES AND FILMSTRIPS

	1958-59	1957-58	Comparison
Number of 2 × 2 slides sent out	68	122	-54
Total audience viewing slides	2,304	3,036	-732
Individual filmstrips sent out	3,158	3,016	+142
Total audience viewing strips	54,991	66,312	-11,321

TABLE IV GENERAL STATISTICAL SURVEY

Lectures

University staff and Department of Extension staff	1,970	
Aggregate attendance		101,074
Number of radio and TV talks	149	
Conferences and short courses, Table I	255	7,680
Feeder's Day attendance	2,250	
Breton Field Day attendance	250	
	<hr/>	2,500

Visual Instruction

No. of 2 × 2 slides and individual filmstrips sent out	3,226	
Total audience viewing slides and strips		57,295
Number of reels of silent film sent out	891	
Number of reels of sound film sent out	16,519	
Total sets of moving picture films sent out	3,980	
Total showings of films, sound and silent	5,266	

Library Circulation

Travelling Libraries		50,477
Open Shelf:		
Adult Books	64,625	
Juvenile Books	35,544	
Periodicals and Pamphlets	1,413	
	<hr/>	
Total		101,482

Study Group Material

Number of Citizens' Forum Bulletins sent out	1,470
Number of copies of New Canadian Plays sold	154
Number of bulletins, circulars and leaflets sent out	31,436

Report of Senator Donald Cameron, Director of the Banff School of Fine Arts

The year just closed marked the beginning of the Second quarter century of operation for the Banff School of Fine Arts and Centre for Continuing Education. It was an auspicious beginning for the second twenty-five years of service. The number of groups using the School's facilities increased from sixty-four the previous year to one hundred this year; the number of people participating, from 5,900 to nearly 8,000; and probably best of all, from the standpoint of future development, the year saw a marked increase in the number of classrooms and sleeping quarters available as a result of the building of the Second Wing of the Administration Building.

Through the generosity of the Provincial Government, the University and the Canada Council, a splendid New Wing containing an additional 37,000 square feet of floor space was built at a cost of \$550,000 and opened for occupation on January 15th, 1959. The Wing contains a most attractive dining room, capable of comfortably seating 600 people at a time. There are thirteen classrooms and a library and twenty-two twin bedrooms with bath and a lounge.

The combination with the old Wing of the Administration Building, with its 25,000 square feet of floor space, means that the one building now contains twenty-six classrooms, a library, an Auditorium seating 600, a dining room for the same number and a total of thirty-eight twin bedrooms, all with bath.

The erection of the new building meant that the two floors in Chalet III which were formerly used as dining rooms, could be converted to their original purpose of sleeping quarters and the space became eighteen twin bedrooms, with bath.

Emphasis was placed at the beginning of this report on the title, Banff School of Fine Arts and *Centre for Continuing Education*. While the fine arts will always occupy an important place in the programme of the School, the most rapid growth is in the School's activities as a centre for continuing education. The people who participate in the large number of short courses and conferences are business men and educators, church groups, labor and farm organizations. These are mature people who want good accommodation and the School is now able to provide facilities that are second to none on the continent. The only other Centres in America that compare with it are the Centre for Continuation Studies at the University of Minnesota, the Kellogg Centre at East Lansing, Michigan, and the similar centre at Athens, Georgia. None of these have the majestic setting of the Banff School and, as a consequence, it is rapidly becoming known as an international adult education centre of standing, both from the standpoint of facilities and quality of programme.

The largest single activity in the year continues to be the annual Summer Session in the Fine Arts. This attracted 604 students from ten Canadian provinces and twenty-three American states, with a sprinkling from Cuba, Columbia, Hawaii and England. About twenty percent were Canadian and American college students or teachers, who were taking courses for which they would receive either academic credit or salary increments in their home institutions. Another substantial percentage were serious students of painting, music, theatre and ballet who are going on to professional careers in those fields. An example of what the Banff School is contributing to the professional theatre in Canada, for example, can be illustrated in the Stratford Festival. This year nine former Banff students are playing leading roles at Stratford

—six in theatre and three in singing. These are: Frances Hyland, Bruno Gerussi, Ted Follows, Douglas Rain, Conrad Bain, John Arab, Al. Gray and Barbara Strathdee.

In the past year the Banff School of Fine Arts Summer Festival provided twenty-seven performances for over twelve thousand people. Twenty of the performances were in Banff and seven in Edmonton, Red Deer, Calgary and Lethbridge. The tour involved transporting Ballet and Opera Company casts of five and forty-five respectively, and after dividing the net proceeds with local sponsors there was a small surplus on the operation.

The Banff School of Advanced Management, which is a cooperative venture between the four Western universities, continues to grow and make an impact on the Canadian business community. Some ninety-nine executives, mostly from the middle management level and upwards, attended two six-week management training programmes during the year. In addition to this, the annual two-week courses in Personnel Management and in Executive Development had increased enrolments over the previous years.

Another feature of the Banff programme which is significant is the increasing use of the School and its staff by companies conducting series of intensive in-service training programmes. For example, Shell Oil conducted seven one-week courses for their supervisory personnel, each course being attended by twenty to twenty-five men. The Alberta Wheat Pool and some of the insurance companies are developing similar programmes at Banff, each suited to the needs of their particular business.

Church organizations, Y.M.C.A. and Y.W.C.A. groups, Women's University Clubs, the Alberta Teachers' Association, the Kellogg Foundation and the Faculty of Education are among the many other organizations which are making the School the centre for their extra mural educational activities. Farm organizations, too, are using the facilities of the School for leadership training purposes, so altogether the Banff School as the 'third campus' of the University is now playing a unique role as the leading centre for residential adult education in Canada.

Report of Dr. R. D. Stuart, Director of the Provincial Laboratory of Public Health, for the Year 1958

During 1958 the Provincial Laboratories carried out 526,510 examinations, an increase of 82,065 over 1957. This increase is slightly over-emphasized by the conversion in this year's report of certain histopathology figures from specimens to examinations, but even after allowing for this the figures for 1958 indicate an increase in examinations of about 16% in the Edmonton laboratory and about 12% in the Calgary laboratory. High percentage increases in both laboratories were recorded in diagnostic cytology for cancer cells, mycology, miscellaneous diagnostic bacteriology and in water examinations.

Special Trends

Completion of the new wing to the Edmonton laboratory, with its promise of expanded facilities, is still awaited but only a small amount of internal work remains to be done. These expanded facilities should be of great assistance in dealing with the considerable increase in hospital diagnostic work which must be anticipated under the new Federal—Provincial hospital agreement. This also emphasizes the desirability of relocating the Calgary laboratory in the city area where it can contribute more adequately to the

Provincial hospital diagnostic service. Although the new laboratory wing in Edmonton is still unavailable for full occupancy a portion of its space has already been used to extend the training facilities offered to technical workers from various hospital laboratories. The serious shortage of qualified laboratory personnel is a continuing problem in the provision of adequate diagnostic facilities throughout the Province. This is being tackled in combination with the University, certain large hospitals in the Province, and the Provincial Department of Health. A special course leading to a B.Sc. degree in Medical Laboratory Science has been developed and the Provincial Laboratory in Edmonton will take a considerable part in providing ancillary technical training.

New or Supplementary Services

Under this heading may now be listed the distribution of skin test antigens for the diagnosis of histoplasmosis, coccidioidomycosis and blastomycosis. This was begun tentatively in 1956 but has now been accepted as a necessary regular service. These antigens are not available locally on short notice but can be conveniently stocked and distributed from the Provincial Laboratory. 35 skin test sets have been distributed since the inception of this service and their use had led to the diagnosis of 2 cases of arrested histoplasmosis with pulmonary calcification, 1 case of arrested coccidioidomycosis and 1 case of active systemic coccidioidomycosis. Under this heading also may come the "control of infection" program adopted for the University Hospital. The location of the hospital immediately adjacent to the Edmonton laboratory and the availability of trained senior workers in that laboratory make this service desirable and feasible. Further, by its steady demand on our staphylococcal phage typing service, this infection control program helps to maintain the technical standards necessary to deal with the irregular but often urgent demands from other provincial hospitals for help with staphylococcal typing.

Regular Services

Mycology—The increasing clinical interest in medical mycosis has led to a dramatic increase in the diagnostic examinations carried out both in Edmonton and in Calgary. The Edmonton examinations have quadrupled in the last four years and the Calgary examinations have more than doubled in the last year alone. In Edmonton 213 dermatophytes were isolated during 1958.

Pathology—Demands on all branches of the pathology service have shown a steady increase in both laboratories, 16,485 surgical biopsy specimens being examined in Edmonton and 5,998 in Calgary. About 5% of the tissues received in Edmonton from rural hospitals showed evidence of cancer and this percentage was almost doubled in the tissues received from the University Hospital. In Calgary, Dr. Shute reports that 398 or nearly 7% of his histological specimens showed the presence of malignant disease. Examination of fluids for cancer cells has become of increasing importance in recent years. In Edmonton examinations of secretion from the cervix, sputum, bronchial washings, etc. increased from 315 in 1957 to 599 in 1958, malignant cells being identified in 24 instances this year. In Calgary the number of examinations, 686, was even higher but the incidence of cancer was lower, although 6 cases of early disease were thus detected.

Important as the diagnosis of cancer may be it should be considered to be the main purpose of these histopathological investigations of tissues and smears. Even in the absence of any malignant process the pathologist's report

is usually invaluable to the clinician as a guide in both diagnosis and treatment.

Bacteriology—Of particular interest is the continued rise in the isolation of organisms of the *Salmonella* group in both laboratories. This seems to have started about 1956 and applies particularly to organisms associated with food poisoning. The 112 isolations in Edmonton are considered especially significant because they were derived from such a large number of isolated cases or from family outbreaks and not from any large epidemic. These findings indicate a very wide distribution of such organisms within the Province and suggest increasing human contact with them. In this connection the occurrence of 4 cases of *Salmonella typhi-murium* infection in babies, in Red Deer, Edmonton and Edson, is noteworthy. Bacillary dysentery also is now firmly established in the Province, *Shigella sonnei* being dominant. *Shigella boydii*, which first appeared in 1957, caused a few more cases this year.

No particular prevalence of other bacterial infections has been observed. Staphylococci continue to cause trouble in hospitals but in most areas such infections seem to be under reasonable control. Diphtheria which was seen to be on the increase in recent years has been less prevalent in the northern part of the province, only 19 isolations being recorded, one from a fatal case. In the south 11 cases of diphtheria were encountered. All cases occurred sporadically and at scattered points but indicate the need for continuing vigilance in prophylaxis as well as in diagnosis.

An interesting series of unusual infections was encountered in Edmonton. *Pasteurella multocida* is an organism commonly carried by cats, dogs and certain farm animals. In previous years rare infections with this organism have been diagnosed in both Edmonton and Calgary laboratories but during 1958 no fewer than 10 cases were encountered in the former laboratory. Of these infections 5 were in superficial wounds contaminated by dog or cat bites or licks, 4 were broncho-pulmonary, and 1 appeared in an acute suppurative appendicitis in a young farmer.

In the diagnosis of gonococcal infections the replacement of smear examination by culture, indicated in last year's report, has continued satisfactorily. This development has reduced the amount of laboratory work per specimen and has thus allowed the same number of workers to meet an increased specimen load. The percentage of successful results has been maintained at the highest level so far achieved.

Staff

The resignation of Professor C. R. Amies from his position as Consultant and Virologist to the Provincial Laboratory must be noted with extreme regret. Throughout his years of association with the Edmonton laboratory he had made an invaluable contribution to its services and development. Particularly is it to be regretted at a time when facilities for virus diagnosis were about to be provided in accordance with his own specifications and desires. The position of Senior Assistant Bacteriologist, vacant since the resignation of Dr. Iland in May, 1957, has now been filled by the appointment of Dr. E. J. Penikett from the Bacteriology Department of Guy's Hospital in London. Dr. Penikett took up his duties in the beginning of December, 1958.

TABLE I
EXAMINATIONS PERFORMED IN THE PROVINCIAL LABORATORIES

Year 1958

Control of Common Infections	Edmonton	Calgary
Enteric-Dysentery	5,965	2,281
Diphtheria	4,858	1,445
Fungus infections	3,392	278
Intestinal Parasites	327	98
Naso-pharyngitis	9,252	1,376
Tularaemia serology	1,698	727
Tuberculosis	12,242	2,161
Undulant Fever serology	1,850	727
Whooping Cough	26	25
<i>Other diagnostic and miscellaneous</i>		
Animal inoculations (other than T.B.)	141	49
Antibiotic etc. sensitivities—disc	157,002	31,814
..... tube	15	.....
Blood cultures	1,222	108
Leptospirosis	200	.....
Miscellaneous	19,921	4,507
Paul Bunnell test	1,042	334
P.M. Bacteriology	253	.....
Referred cultures	283	4
Special investigations	7,851	12
Trichomonas	7,652	327
Virus infections	306	.....
<i>Venereal Disease Control</i>		
Chancroid etc	5	.....
Gonorrhoea — Smears:	6,902	6,111
..... Cultures:	8,094	359
Syphilis	121,510	37,173
<i>Sanitary Bacteriology</i>		
Food Products	64	11
Milk and Cream	2,998	2,190
Water	11,616	6,480
Utensils	1	5
<i>Pathology</i>		
Diagnostic cytology—blood smears	194	175
..... bone marrow	203	3
..... fluids	599	686
Routine diagnostic histology	21,308	7,479
Routine diagnostic autopsies	8,069	5
Referred diagnostic histology	1,750	2
Pregnancy Diagnosis—Frog Test	728	.....
..... Rabbit Test	19	.....
TOTALS	419,558	106,952

TABLE II—CONTROL OF ENTERIC-DYSENTERY INFECTIONS

Examinations	Edmonton	Calgary
Blood and Clot Cultures	1,542	725
Faeces Cultures	2,292	740
Urine Cultures	19	19
Other examinations	46	.....
Serological Tests	1,802	727

*Details of Isolations including repeats**Salmonella*

<i>S. typhi</i>	15	.....
<i>S. paratyphi B</i>	22	1
<i>S. typhi-murium</i>	64	8
<i>S. heidelberg</i>	25	11
<i>S. newport</i>	12	13
<i>S. montevideo</i>	4	.....
Other <i>Salmonellae</i>	7	.....

Shigella

<i>Shigella sonnei</i>	132	26
<i>Shigella flexneri</i>	16	3
<i>Shigella boydii</i>	8	.....

TABLE III—CONTROL OF TUBERCULOSIS

Examinations	Edmonton	Calgary
Microscopic	6,184	927
(positive)	320	5
Culture	3,867	715
Animal inoculations	2,091	519

<i>Specimens</i>	Edmonton		Calgary	
	No.	Positive	No.	Positive
Pulmonary	4,852	406	726	.....
Meningeal	79	7	27	1
Renal	826	51	328	2
Other	410	36	235	3

TABLE IV—CONTROL OF SYPHILIS

<i>Bloods</i>	Edmonton	Calgary
Examinations—Presumptive Kahn	95,498	29,082
Standard Kahn	10,139	3,192
Quantitative Kahn	848	147
Wassermann (Kolmer)	13,342	3,719
<i>Cerebro-spinal fluids</i>		
Examinations—Wassermann (Kolmer)	1,683	997
Blood and cerebro-spinal fluid “positive” to reaction	596	129
Blood and cerebro-spinal fluid giving reaction below lab. diagnostic level	2,013	855
<i>Pre-marital Bloods</i>	12,284	8,292
Positive to reaction	13	3

TABLE V—SANITARY CONTROL MILK AND CREAM

	Edmonton	Calgary
<i>Milk and Ice-cream</i> (No. of specimens)	1,655	1,157
Coliform test	904	530
Plate Count	1,651	1,157
Phosphatase	242	280
Butter fat	200	209
Milk bottles etc	1	7

TABLE VI—SANITARY CONTROL WATER

	Edmonton	Calgary
<i>Water</i> (No. of specimens)	5,536	3,127
Coliform test—Presumptive	5,502	1,661
Confirmed	1,820	1,350
Special	279	321
Plate count	4,015	3,148
Waters found bacteriologically unsuitable	923	1,050

Report of Mr. C. E. Noble, Director of the Industrial Laboratories

During the year 1958-59, the Department of Provincial Analyst and Industrial Laboratories carried out 11,492 analyses. These included analysis of materials for various Government Departments such as the Attorney-General, Agriculture, Health, Highways, Lands and Minerals, Mines and Forests, Provincial Secretary, Public Works, and also the University. Control analyses were made for the Alberta Liquor Control Board, and included analysis of malt liquors, stock samples, and complaint samples. The Breweries were inspected once per month.

Chemical examinations were made for the Provincial Coroner, hospital pathologists and doctors, and the necessary court evidence given under the Dominion and Provincial Acts and Regulations.

Exhibits from the various Police Departments were examined and analysis made where necessary, court evidence being given where required.

The specimens from the Veterinary Laboratory continue to increase in number and variety as new pesticides are found. The commercial work remained about the same, or slightly less; however, this class of work becomes increasingly difficult, requiring more work and research. The routine commercial work is being taken over by commercial laboratories. Help and advice was given to Alberta prospectors as requested, and the mineral and ore samples submitted were analysed.

The Engineering testing work decreased as this work was taken over by commercial firms while the samples for health departments continued to increase rapidly.

Some testing work was done for other laboratories and some help was received from them. Also many referee samples from firms and other laboratories were analysed. To sum up, the work of the Provincial Analyst Department is steadily increasing while the Industrial work declines slightly as more commercial testing firms appear.

Examinations and Analyses

Acid	4	Furs	1
Alcohol	3	Galena	2
Anodes	2	Gasoline	34
Antifreeze	1	Glass	6
Ash	2	Glass Beads	5
Asphalt	2	Glauber Salts	6
Barytes	4	Glue	5
Bentonite	2	Glycol	3
Biscuit	1	Grain	13
Bitters	3	Gravel	2
Blankets	8	Gypsum	2
Blood	637	Hair	3
Bornite	15	Ham	2
Bottle	1	Hats	2
Brain (for alcohol)	106	Honey	1
Brass	2	Industrial Chemicals	2
Bread	3	Ink	4
Brine	6	Insecticides	1
Bugs	2	Insects	3
Calculi	17	Insulation	3
Candy	8	Iron	7
Carbon	1	Iron Ore	1
Carbon Paper	46	Lead	7
Carpet	1	Leaves	1
Cement	8	Lime	3
Chemicals	12	Limestone	39
Chlorine Compounds	3	Linoleum	1
Cigarettes	2	Liquid	8
Clay	35	Liquor (Detailed for ALCB)	115
Cleaner	8	(Malt for ALCB)	1129
Cloth	7	(Police Samples)	135
Clothes	105	(Miscellaneous)	9
Coal	4	Lung	2
Coffee	3	Manure	1
Concrete	12	Marl	4
Cream	3	Matches	1
Deposits	48	Meat	9
Detergent	4	Medical Compounds	2
Diaper	1	Medicine	2
Disinfectant	1	Metal	20
Drapes	8	Mica	2
Dust	1	Milk	3
Eggs	2	Miscellaneous	14
Feed (Animal)	36	Molasses	1
(Poultry)	34	Mud	5
(Concentrates)	6	Narcotics	4
Fertilizer	1	Oil (Crude)	4
Fire Exhibits	2	(Lubricating)	7
Fire Extinguisher	1	(Protective)	2
Food (Human)	60	(Fuel)	3
Fruit	2	(Edible)	2

Ore	293	Solvents	8
Paint	35	Spices	1
Paper	12	Steel	25
Pills	25	Stucco	5
Pipe	2	Strychnine	1
Plants	2	Sugar	2
Plastic	1	Tankage	7
Plaster	12	Tile	5
Poison Exhibits (Misc.)	10	Tomatoes	1
(Human)	491	Urine	105
Police Exhibits (Misc.)	114	Veterinary Specimens	1256
Potatoes	2	Vitamins	1
Powder	8	Volcanic Ash	2
Pyrites	2	Voodoo Stick	1
Quartz	4	Water (Sanitary)	3704
Rock	379	(Poison)	4
Rope	1	(Industrial)	25
Rubber	9	Wax	44
Rubbing Alcohol	1	Wheat	9
Rugs	1	Wire	2
Salt	10	Wood	6
Salve	1	Wool	2
Sand	52	Zeolite	1
Sandstone	2		
Schist	1	<i>Engineering Materials</i>	
Sediment	1	Concrete Cylinders	1273
Seed	1	Condensers	1
Shale	13	Conductor Cable	14
Shorts	3	Electrician Gloves	407
Silage	2	High Voltage Fuses	4
Silica	4	Light Buses	1
Sludge	1	Lightning Arresters	21
Soap	9	Lightning Rods	1
Sodium Sulphate	3	Meters	9
Soft Drinks	1	Rubber Blankets	4
Soils	91	Transformer Oil	3
Solutions	8	Voltage Regulator	1

